

ECOFEMINISM, GAIA, AND NEW MATERIALISM:

TOWARD AN ETHIC OF EMBODIED AGENCY

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ABSTRACT

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As a discourse located at the intersections of patriarchal oppression experienced by marginalized peoples and the earth, ecofeminism is a rich resources for constructing new moral frameworks in response to global change. Ecofeminists criticize the dualism, universalization, hierarchical orientation, and individualized focus of the dominating Western paradigm and point to these harmful patterns as sources of oppression. In addition to critiquing the dominating western paradigm, ecofeminists have constructed and enacted new relationships between people and the earth. Since the primary burden of responsibility for global change falls on white Western peoples and the oppression of women is entangled in the paradigm that has ushered in global change, white Western women need frameworks that both restore agency and recognize our role in the oppression of others. Many Western ecofeminists have leaned on Gaia theory as an ecological ontology by pairing Gaia the goddess with Gaia theory. However, uses of Gaia theory in ecofeminism are tied to the conception of Gaia as earth-mother-goddess, putting ecofeminists at risk of falling into many of the same patterns they criticize in Western paradigms. Gaia theory and ecofeminism were in dialogue for decades, but there was not an available ontology that allowed ecofeminists to fully break free of the harmful patterns of the Western paradigm.

I contend that new materialism's panagential ontology allows for Gaian ecology to shed connections with Gaia as goddess, providing the proper ontological foundation for an ethic of

embodied agency that responds to the inherent intersectionality of ecofeminism. New materialism introduces an ontology of panagency that renders Gaia to be an agent of material multiplicity. Constructing an ecofeminist moral framework from an ecological ontology of panagency allows for an ethic of embodied agency in which one's embodiment encompasses and is encompassed by other material beings, thus empowering the agency women hold as particular material beings while responding to the inherent relationality of all beings. Based on an ecological ontology of panagency, an ecofeminist process for constructing lived responses to global change must be: 1) based in situated knowledges; 2) historically conscious; 3) ecocentric but anthropogenic; 4) mutualistic; and 5) adaptive. Although these principles lie at the heart of ecofeminist thought, they are not sufficient by themselves to offer an all-encompassing solution to climate change. Still, I argue that they speak effectively to the location of white women; they offer a path for enacting new ways of being in relation to others, and they do not foster the harmful practices that have so often followed from the dominating Western paradigm.

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Preface

With global change well underway, there is a deep need for the development of ecological ontologies and new moral frameworks that flow from them. As a discourse that works at the intersections of oppression that occur as a result of Western patriarchal domination, ecofeminism is an essential tool for constructing a moral framework based on an ecological ontology. Many Western ecofeminists have leaned on Gaia theory as an ecological ontology by marrying Gaia the goddess with Gaia theory. However, uses of Gaia theory in ecofeminism are tied with the conception of Gaia as earth-mother-goddess which puts ecofeminists at risk of falling into many of the same patterns they criticize in Western paradigms. Gaia theory and ecofeminism were in dialogue for decades, but this dialogue was based on the same problematic ontologies that ecofeminists take issue with. I contend that new materialism's panagential ontology allows for Gaia to shed the problematic connections with Gaia as goddess.

Gaia theory is inherently materialist but not mechanist, and so does not fit a materialist paradigm that gives way to a mechanistic conception of the earth, a paradigm that ecofeminists were also opposed to. Thus, a theistic dualism served as the best option for keeping the earth ontologically alive and developing an ethic that appealed to a meaningful system of interrelationship amongst beings. Emerging decades into the conversation between Gaia theory and ecofeminism, new materialism offers the missing link: a panagential ontology to drive forward an ethic of embodied agency.

My position is that we must move from an ethic of individual consumption to an ethic of embodied agency within Gaia, and I argue that an ecological ontology of panagentialism allows for an ecofeminist ethic that centers on embodied agency. Panagentialism enables the merging of ecofeminism and Gaian science without risk of committing the pitfalls of a Western paradigm

that ecofeminists criticize for: 1) sanctifying science through a universalized epistemology; 2) upholding a dualist metaphysics that relies on the distinction between either spirit/matter or reason/matter; 3) essentializing women with the earth; and 4) maintaining an ethic based on patterns of infinite consumption and growth. An ontology based on Gaia theory and new materialism gives rise to a reformed ecofeminist ethic that does not follow those harmful patterns.

By linking Gaia theory to Gaia the goddess, ecofeminism was at risk of falling into the same traps it was criticizing—namely, consecrating science and relying on a dualistic metaphysics. The thea-fication of Gaia theory is problematic for ecofeminism because 1) it perpetuates an essentialism of the feminine with the earth; 2) a thea-fication is still a deification and results in the consecration of science, thus positing a universal perspective; 3) it maintains a hierarchical conception of humans in relation to the earth; and 4) it perpetuates an ethic based on tension between the individual and the whole.

In the introduction, I will present background information to demonstrate why, especially for my primary audience of white upper-middle class women, there is a need for ecofeminist ethics, and I will locate myself in order to situate my perspective. In Chapter 1, I will lay out the ways current ecofeminist uses of Gaia theory are at risk of many of the same problems ecofeminists have identified as problematic in Western dualist ontologies. In Chapter 2, I will explore Gaia theory as presented by Lovelock, Margulis, and others as a scientific theory with religious connotations but void of that attribution of consciousness, animism, or a moving spirit. In Chapter 3, I will propose new materialism as a discourse that solves previous problems with a pan-agential ontology. In Chapter 4, I will examine the points of intersection between ecofeminism, new materialism, and Gaia theory that shape an ecological ontology of

panagentialism. In Chapter 5, I will lay out principles of an ecofeminist ethic of embodied agency against the backdrop of an ecological ontology of panagentialism.

Introduction

Now the LORD God had formed out of the ground all the wild animals and all the birds in the sky. He brought them to the man to see what he would name them; and whatever the man called each living creature, that was its name. ²⁰ So the man gave names to all the livestock, the birds in the sky and all the wild animals. ²¹
—Genesis 2:19-20

None were left now to unname, and yet how close I felt to them when I saw one of them swim or fly or trot or crawl across my way or over my skin, or stalk me in the night, or go along beside me for a while in the day. They seemed far closer than when their names had stood between myself and them like a clear barrier: so close that my fear of them and their fear of me became one same fear. And the attraction that many of us felt, the desire to smell one another's smells, feel or rub or caress one another's scales or skin or feathers or fur, taste one another's blood or flesh, keep one another warm— that attraction was now all one with the fear, and the hunter could not be told from the hunted, nor the eater from the food.
- Ursula K. Le Guin's *She Unnames Them*

White women, with one foot on the ladder of the white patriarchal hierarchy and one foot embedded in the earth, hold a power that has been suppressed by the embodiment of femininity projected onto us. It is time that we come to the full realization of that power to move towards dismantling the white patriarchal system that has dominated the Western world, and benefited us to some degree, for far too long. In 2016 I came to the full realization of this power as a slight majority of white women voted a patriarchal prodigy into presidency, proving that we are pawns in the scheme of our own oppression. I know better, or perhaps I want to believe we are better, because it was my mother who opened doors to our friends, created spaces for all kinds of prayer, and offered hospitality to everyone who came to our home. White women taught me to err on the side of love, compassion, and understanding. It was my mother's body that demonstrated to me the power of a body to give, nourish, and destroy life as we tended the garden, prepared and preserved our harvest, and made our own ways through the world of my

father and brothers. In our private lives, it was white women who taught me to push the boundaries of love and seek understanding as we quietly tiptoed around the fragility of white men. Yet, in the public sphere these compassionate values and the embodiment of power have not been fully realized. One of the ways this disparity between private and public lives is currently evidenced is in responses to climate change.

In the face of a changing climate, public reluctance is particularly problematic because it will not be enough to open private doors or clean windows of private homes with green products. The movements that have been made are miniscule, reflecting Rosemary Radford Ruether's intuition in 1975 that environmental issues will be addressed with the development of new products in a consumer market catered to women:

Women will naturally be pressed into becoming the self-help ecologists in band-aid remedies that increase the dissipation of their energies in trivia, but have minimal effects of the ecological imbalances. Ecological morality aimed at the home must also turn ecological concern itself into a new consumer product for women's use. The ecological factor will be built into consumer products in some trivial way and then sold with much advertising to women as a luxury item tacked onto present consumer products to placate the conscience.¹

Green cleaning products, essential oils to replace chemically based home-aromas, and certified organic foods have saturated the market and are geared toward women primarily concerned about the health and future of their children with secondary concern for the environment. These folks, and my intended audience, are not radical right-wing climate deniers. They are not people who do not care. They are the very people who have taught me to care and so the goal of this work is to explore possibilities of new models for a good and meaningful life that are not built on the backs and bones of other bodies. The current moral paradigm relies on the capability and

¹ Rosemary Radford Ruether, *New Woman, New Earth: Sexist Ideologies and Human Liberation* (Boston, MA: Beacon Press, 1995), 201.

power of women as capitalist consumers rather than conscious beings with embodied agency. A paradigm relying on women as private saviors through the power of capitalist consumption fuels the fire of climate change rather than creating a way for adapting to the rising temperatures.

Figuring out the catalysts of climate change is a rather simple equation; climate change is a result of some people using more than their necessary and fair share of the earth's resources. According to the World Resources Institute, the top industries for emissions are: 1) Energy; 2) Industrial Processes; 3) Agriculture; and 4) Waste.² These are the industries that fuel the "American Dream" which includes bigger houses and vehicles, travel, meat consumption, and the continuous accumulation of things. The top three national emitters are China, the United States, and the European Union; combined, these three nations contributed fourteen times more carbon emissions than the bottom hundred. The math is clear: the rapidly warming climate is a direct result of consumption habits in developed nations.³ While China is a national leader for carbon emissions, Canada and the U.S. top the charts for carbon emissions per capita with Canada hovering just under twenty-five metric tons of carbon emissions per capita and the U.S. just under twenty.⁴ However, these numbers do not compensate for the complexities of global colonial entanglement in which industrialized nations have moved their industries to less developed nations. While scientific evidence supports the claim that climate change is not a "scientific issue," but rather a cultural one, there is no equation that will ensure adaptation in a

² Johannes Friedrich, Mengpin Ge, and Andrew Pickens, "This Interactive Chart Explains World's Top 10 Emitters, and How They've Changed," World Resource Institute, last modified April 11, 2017, <https://web.archive.org/web/20190107183245/https://www.wri.org/blog/2017/04/interactive-chart-explains-worlds-top-10-emitters-and-how-theyve-changed>.

³ Friedrich, Ge, and Pickens, "This Interactive Chart Explains World's Top 10 Emitters, and How They've Changed."

⁴ Friedrich, Ge, and Pickens, "This Interactive Chart Explains World's Top 10 Emitters, and How They've Changed."

just manner. Despite being primarily responsible for creating the conditions that cause the climate to warm rapidly, most people in the U.S. are not concerned about the impact climate change will have on them.

In a recent study done by the Yale Program on Climate Change Communications, it was made clear that those surveyed feel the bracing cushion of being a part of the Western world, as 62% of people believe climate change will harm the world's poor and people in developing nations but only 43% of people surveyed believe climate change will impact them personally.⁵ Furthering the issue, the majority of people in the U.S. view climate change as a scientific or environmental issue while “[f]ewer consider global warming to be a moral (37%), national security (27%), poverty (25%), social justice (24%), or religious issue (8%)” according to the previous year's survey.⁶ The belief that climate change is a scientific or environmental issue is a petri dish for inaction because this conception of climate change maintains a separation between science, culture, and responsibility.

If one maintains that climate change is a scientific or environmental issue rather than one of personal and collective practices then there is no reason to see climate change as a problem that calls one's worldview and correlating lifestyle into question. Perhaps this disconnect is a shadow of Lovelock's assertion that the majority of people are unaware of their dependence on the world outside their immediate reality and therefore, as urban people, do not care about the earth or other bodies that compose the ecosphere. At best, people are concerned about their

⁵ A. Leiserowitz, E. Maibach, C. Roser-Renouf, S. Rosenthal, & M. Cutler, *Climate Change in the American Mind: May 2017* (New Haven, CT: Yale Program on Climate Change Communication, 2017), 3.

⁶ A. Leiserowitz, E. Maibach, C. Roser-Renouf, G. Feinberg, & S. Rosenthal, *Climate Change in the American Mind: March, 2016* (New Haven, CT: Yale Program on Climate Change Communication, 2016), 4.

biological legacy: the top “reason why Americans want to reduce global warming is to provide a better life for our children and grandchildren—a reason selected by one in four Americans (24%).”⁷ Industrialization seems to offer a perceived shield to the environmental changes we are already facing, which means that the gatekeepers to safe spaces will be the people who have benefited most from the exploitation of the earth and other people. The very promises of the American dream add fuel to the fire of a rapidly changing climate: more cars than humans in a household, McMansions that must be heated, cooled, and lit up, the ability to travel around the globe on a whim, and endless stores of meat at the market.

There is no precedent on record for the rate of climate change we could witness should we continue business as usual. The earth’s climate is changing faster due to the behavior of some humans, which means there is less time for species and the earth system to adjust than there has been during periods of climate change in the past. In addition, natural mitigation systems such as the rainforests, which act as the lungs of the earth soaking up carbon released into the atmosphere, are also being destroyed. The living earth system will persist, but it will be drastically different than the home humans have come to know. Bill McKibben argues that the difference will be so drastic that we need a new name for the planet we are emerging into: *Eearth*.⁸ The earth system itself is changing as the temperature rises, so measurements and predictions about climate change are arrows aiming at a moving target. By releasing carbon gases into the atmosphere at unprecedented rates, human activity is changing the way the earth system functions so the patterns of climate change that happened before humans had such a great impact on the earth system are not entirely relevant. While science can point to the causes of the

⁷ A. Leiserowitz et al., *Climate Change in the American Mind: May 2017*, 4.

⁸ Bill McKibben, *Eearth: Making a Life on a Tough New Planet* (New York, NY: St. Martin’s Griffin, 2010), 2.

changes we witness and make predictions about the future, the science has failed to move people to action in response to global change.

Global change alludes to both the changing climate and the changing global landscape that involves alterations of access to water, glacial melting causing transformation of landscapes, and heightening political issues that accompany changes in accessibility to valuable resources.

According to NASA's FAQ on climate change:

Global change encompasses broader changes to all aspects of our world including areas such as the availability of water resources, sea-level rise, ocean acidification, and biodiversity. Climate change is used to emphasize the specific changes most commonly associated with the atmosphere and the "average weather," including temperature, humidity, cloudiness, or precipitation changes.⁹

Global change delineates the political implications of environmental transformation for human communities and the community of life at-large; thus it serves as a more suitable concept for the discussion of human responses to climate changes.

Environmental lawyer and advocate James Gustav Speth recognizes that "[t]he top environmental problems are selfishness, greed and apathy, and to deal with these we need a cultural and spiritual transformation. And we scientists don't know how to do that."¹⁰ What Speth identifies here is a clashing of morality and science—an impossible encounter in a traditional Western worldview steeped in dualisms that separate value from fact. For helpful responses to climate change to be constructed, the boundaries constructed between science and ethics must be scaled. Thus, there is a deep need for reflection on the worldviews that inform the structure and systems of society, particularly in industrialized and industrializing nations.

⁹ National Aeronautics and Space Administration, "Frequently Asked Questions about Global Warming," Down to Earth: Global Climate Change Education, accessed January 6, 2019, <https://web.archive.org/web/20190106183015/https://globalclimate.ucr.edu/styled-5/styled-8/>.

¹⁰ Guruprasad Madhavan et al., *Practicing Sustainability* (New York: Springer Science & Business Media, 2012), 35.

Instituting short-term policies and programs is not enough to transform the lifestyles of people disproportionately using up resources and thereby contributing to hastening global warming.

Underlying the American dream is an ontology that places humans, and particularly white male humans, above the earth while the things of the earth have been utilized as tools: means to an end rather than ends in themselves. There are and will continue to be physical repercussions for the ways white Western humans have walked around with our heads in the clouds, failing to see that our feet are on the ground and thus ignoring the sources and objects of our consumption. Until it is accepted that we walk upon our true ontological foundation daily when our feet hit the ground, the recognition of our impact cannot be calculated. The ground is ripe with evidence of human impact in the form of plastics embedded in the earth's crust—the evidence is so great it has led to the proclamation of a new geological era deemed the Anthropocene.

In addition to being a political statement about human impact on the earth or a scientific claim about moving into a new geological era, the proclamation that we are in the age of the Anthropocene poses a major threat to the operating metaphysical assumptions of Westernized (i.e. industrialized) society. On one hand, it affirms the presumed power of humanity to transform the earth. On the other, the Anthropocene reflects that humans are inextricably in and of the earth. The embeddedness that brought about the Anthropocene is in contrast with Western ethics, which has historically focused on relations to other humans, reflecting a worldview in which humans are somehow rendered separate and above the rest of the biosphere, whether it be as the pinnacle of creation or the top of the food chain.

Since most Americans think of climate change as a scientific issue, questions about how humanity should adapt are swept aside in favor of solutions that will allow the general public to

continue living with only minor adjustments to behavior. Rather than changing direction, the aim has mostly been to develop solutions, such as sustainable development, in hopes of going in the same direction at the same speed, only this time in an expensive fuel-efficient vehicle. This type of response results in a failure to see that over the hill we are attempting to climb at full speed is a cliff. If we do not change direction the climate will only change faster and further into the future. While good practices, eating less meat and re-using more plastics are not enough. Adaptation, involving a cultural shift in both private and public realms that redefines what it is to flourish as a human, is necessary in American society.

As Cynthia Moe-Lobeda articulates in *Resisting Structural Evil*:

...everyday life, a “good life” in the United States, entails consumption, production, and acquisition patterns that threaten Earth’s capacity to sustain life as we know it, and exploit vast numbers of people worldwide, some even unto death. Our ways of life and the economic policies that make them possible, contribute to severe, even deadly, poverty and ecological degradation on massive scales.¹¹

The need for some to back off and make way for other peoples and other forms of life to flourish is more urgent than ever before. It is well accepted that we are beyond the point of no return. The primary concern that should be driving action is how we can live into the earth-system in a way that will remove the burden of this crisis from those who are least responsible.

Through observation, experience, and scientific support we can be sure that global change is not a far off, futuristic event that we need to prepare for; it has arrived and it is devastating the lives of people and other beings. The climate has and will continue to change; humans have the power to influence how the climate change will impact the bodies of the earth

¹¹ Cynthia Moe-Lobeda, *Resisting Structural Evil: Love as Ecological and Economic Transformation* (Minneapolis, MN: Fortress Press, 2013), 3.

but only through human action, which will require care for other beings and the material system, of which humans are a part.

One of the challenges to motivating change is that the loss and violence of climate change do not have a single face, but manifest in series of events that are seemingly unrelated. Nevertheless, as Klein identifies, it remains that “[a]t every stage our actions are marked by a lack of respect for the powers we are unleashing—a certainty, or at least a hope, that the nature we have turned to garbage, and the people we have treated like garbage, will not come back to haunt us.”¹² Our failure to live amongst the earth is largely due to a misunderstanding of what we are—we are material actors, not only thinkers. Humans are bodies of the earth, not individual pinnacles of creation. The moral issue at stake is that the nature we have turned to garbage will haunt the people we have treated like garbage, deepening the injustices of industrialization and colonization.

The stark realities of climate change require that all people, and especially affluent people utilizing well above their share of daily resources, must adapt to a new *Eaarth* as McKibben calls it, or Gaia, as I will later make the case. Making such a drastic transition is difficult enough for those who are forced to adapt in response to natural disasters that have already occurred because of climate change. Even more challenging is to inspire change in those who feel relatively secure from the impacts of climate change—whose lifestyles are also likely to be the main cause of climate change.

If we stay on course, what lies ahead is ripe with injustices because the humans who can afford and access protection from the impacts of climate change are the same ones who have

¹² Naomi Klein, *This Changes Everything: Capitalism vs The Climate* (New York, NY: Simon and Schuster, 2015), 166.

created the issue for the creatures who will be left hungry, thirsty, and without habitats. We cannot look to those who have been oppressed through industrialization and developed mechanisms to cope with what are now considered “sustainable” practices to lead us forward in the movement. Audre Lorde warns against expecting to be enlightened by the oppressed, as it is another form of oppression.¹³ Yet, thus far the movement is being balanced on the backs of women, indigenous peoples, and others who have developed sustainable skills as a result of their oppression or have fought to carry sustainable practices forward despite Western attempts to wipe them out of history.

While some people can reach back to recent tradition for the knowledge and skills to adapt to a changing climate, it is the primary responsibility of white Western peoples to develop new ways of being on the earth. Rather than charging all people with the task of responding to climate change, this is a charge for people whose levels of consumption far surpass the earth’s provisionary capacities. These are also the people who are most protected from the global impact of climate change and who have access to the most resources for recovery. We have choices to make about whether or not we will choose to protect and insulate ourselves or make choices that contribute to adaptation centered on justice and care.

We have arrived at the Anthropocene through a worldview that separates humans and nature, with a strong preference for the former. Even when “left alone,” nature is often managed for human enjoyment. Currently, even at our best, beings and bodies outside the parameters of humanity are considered for utility rather than agency. National parks, wind, and water are all used rather than valued. I propose that rather than approaching these beings and bodies as utilities, we approach them as fellow agents—active forces driving forth possible futures.

¹³ Audre Lorde, *Sister Outsider* (Trumansburg, NY: Crossing Press, 1984), 114-115.

Why Ecofeminism

As a discourse, ecofeminism allowed me to see climate change as a moral issue because it highlights interconnections between oppression of the earth, women, and other marginalized bodies such as black people in America, cattle in the livestock industry, and indigenous populations around the globe. Ecofeminism identifies a shared source of oppression, namely hetero-patriarchal white power structures, among many different oppressed populations. Ecofeminism will provide a historical context through which to better understand the problematic dominating paradigm in the West in addition to offering a vision with which to move forward.

One of ecofeminism's major assets in constructing responses to global change is that it requires the whole complex earth system to be held accountable to a diversity of bodies, including criticisms of the ways in which some of the oppressed play a role in the oppression of others. Rosemary Radford Ruether points out that it is always easy to see and to feel who is stepping on one's own toes; people are wired for this.¹⁴ However, it takes critical awareness to see the toes and the backs upon which one is standing. In particular, white women have struggled to see that we are standing on the toes of others as we move towards liberation. Thus, we must move forward in community and accountability with others creating new movements that take history into account in organization and mission. Ecofeminism is a vital tool for this work because as a discourse it upholds the diversity of experiences and perspectives that emerge from

¹⁴ Rosemary Radford Ruether, *Sexism and God Talk: Toward a Feminist Theology* (Boston, MA: Beacon Press, 1993), 32.

under the foot of Western patriarchal domination. Underneath that foot there are layers of oppression as diverse and complex as the soil-system itself.

As material agents, people alter the ground we walk on. Lahar suggests, and I concur, that an ecofeminist analysis of history is necessary because people are "...embodied in a time and a place, with the past unfurling behind us and our hands and faces in the future."¹⁵ An ecofeminist historical analysis requires that we call out the missing bodies from what have become traditional Western versions of history. We must recognize the privileges certain people have gained through the exploitation of the earth at the cost of other bodies, lives, and well-being. In doing so, we can pursue new ways of being without balancing the responsibility and consequences of climate change on the toes and backs of those who have historically carried the privileged in the Western patriarchal system.

Ecofeminism requires me to recognize the particularity of my body in relationship to other bodies, both human and otherwise, in order to move towards new ways of being that do not require violent power dynamics. I emphasize plurality here because it seems contrary to the mission of ecofeminist discourse to advocate for a type of homogenous global citizen; rather, here I point to the vision illustrated to me by the Zapatista peoples in Chiapas, Mexico: "*Un mundo donde quepan todos los mundos*."¹⁶ Likewise, ecofeminist worldviews recognize the interdependence of all things while holding particular bodies and communities in high regard for their own sake.

One must recognize the complexities of patriarchal systems when maintaining an ecofeminist perspective; the work of ecofeminism is not to create a new system of domination or

¹⁵ Stephanie Lahar, "Roots: Rejoining Natural and Social History," in *Ecofeminism: Women, Animals, Nature*, ed. Greta Gaard (Philadelphia, PA: Temple University Press, 1993), 92.

¹⁶ Translation: "A world where all worlds fit," spoken by Subcomandante Marcos.

suggest homogenization of oppression, but rather, to locate sources of oppression and dismantle them with the recognition that all bodies are both particular and connected through complex systems of relationships and sources. As LaDuke states, “We have told ourselves that we could live in isolation from other species, not perceiving our connections to the larger world, thinking that we do not have responsibilities, and that we are not connected to each other. In the end, time tells us that we cannot escape from our past, that indeed we must use our knowledge to reconcile ourselves with our history and with each other.”¹⁷ Global change has been in the making long before it was a known possibility to humankind because it is the result of wayward ontology and the morality that followed.

LaDuke, an environmentalist, economist, and political activist, is of Ojibwe heritage and in *Recovering the Sacred* she traces the history of American colonization, highlighting the ways that appropriation, violence, and oppression of Native Americans, all things which continue to serve white America, are wiped out of the telling of American history. While deaths of white people are counted by number in historical accounts of clashes between white immigrants and Native Americans, deaths of Native Americans are generalized and estimated, erasing the particular lives that suffered and are lost while the loss of white immigrants is recorded by number offering a homage to particular bodies.¹⁸ LaDuke argues that the processes of collecting, claiming, appropriating, and unnamings are an erasure of the sacred interdependence of life recognized by the Ojibwe and other Native Americans in the name of domination, remnants of repeated victory of white immigrants over Native Americans.¹⁹ The processes of naming and

¹⁷ Winona LaDuke, *Recovering the Sacred: The Power of Naming and Claiming* (Boston, MA: South End Press, 2005), 227.

¹⁸ LaDuke, *Recovering the Sacred*, 69.

¹⁹ LaDuke, *Recovering the Sacred*, 132.

story-telling continue to shape the ways that people are in relationship to other beings. Thus, part of the process for “recovering the sacred” is both recovering and leaning into new narratives that illustrate the relationality of being rather than the domination of one being over another.

Arguing that they had once been “banished by greed,” LaDuke points to the example of the restoration of lake sturgeon, or *namewag*, in the waters of the upper Midwest. Playing major roles in sacred stories and illustrating the principle of “river connectivity,” the sturgeon is an ancient creature ripe with meaning for Ojibwe peoples. The process of restoration revealed that the fish maintained healthy population levels, providing a substantial proportion of the local Ojibwe’s diet, until the arrival of fisheries run by white people and the introduction of dams to their local habitats that limited their range.²⁰ Now restored by the Ojibwe for their intrinsic value and place in a web of sacred relationships, sturgeon once again populate the rivers and lakes of the northernmost parts of the Midwest. In return, the fish support local economies and are a source of nourishment. The process of recognizing the sacred interconnectivity of beings and reclaiming narratives and names, illustrated by the recovery of sturgeon, fuels movements towards restoration and transformation.

One problem for white Americans, who bear the burden of responsibility, is that the moral frameworks we are currently most moved by continue to be those that favor universal perspectives, dualism, hierarchies, and the isolated individual as a moral being. To lean onto the stories and moral frameworks of those we have previously oppressed, such as the lifeways of indigenous Americans, is a further injustice so the work required is the creation of new moral frameworks that are formed by truths of the past with an eye toward a more just future for all beings.

²⁰ LaDuke, *Recovering the Sacred*, 230.

By making connections between theory and practice, ecofeminism requires going beyond identifying harmful practices to the root of the beliefs behind those practices. An ecofeminist socio-historical analysis is required because it holds at the forefront dynamics of power and systems of oppression within the current scheme of life that deepens the complexity of constructing solutions to the climate change. Not all people are responsible for climate change in the same ways, nor will all people be affected in the same ways. Since people are responsible for and threatened by climate change in differing ways, it is important to locate oneself in relation to the issues that catalyzed climate change.

Revealing Roots

I am a white, middle class, heterosexual female who grew up in the northern Midwest region of the United States. For the most part, I had the childhood experiences one might expect of a person in those categories whose heritage involves late European immigrants and agriculture. My community was not very diverse and, as far as I could tell, class was not necessarily defined in conjunction with race; however, this has changed in the community I grew up in during recent years. I was taught, and for a long time firmly believed, that everyone was privy to equal opportunities. I was indoctrinated with the narrative of color-blindness and my family strived to embody its principles: everyone has the same opportunities and is equally valuable. Contrary to this narrative, which was left largely unchallenged by the lack of diversity, was a latent narrative that I only came to recognize in hindsight.

We were taught a whitewashed history and learned primarily (if not entirely) from white voices in school. As Lahar explains, “Not only have historians been men, but they have been particularly privileged men who have generally recorded events from the point of view of a small

elite group.”²¹ The history I was taught did not conflict with my experiences until I visited my brother in prison and noticed a disproportional number of black and brown bodies, most of which were serving harsher sentences and given no support upon release. In contrast, my brother was encouraged to apply for grants to go to community college and eventually obtained a job that allowed him to secure a suburban home twenty minutes away from where we grew up.

Moorhead is a city in Minnesota of about 40,000 people across the Red River from Fargo, North Dakota. This is a region known for its winters; I remember weeks on end with snow piled so high that it took the force and power of my whole body to work my way through it from the age of 6-16. I have memories of building snow tunnels with my brothers that were so wide adults could fit through them in our back yard. My most recent memory of struggling through deep snow in Moorhead, MN was when my oldest niece was two years old, she is now fourteen and will not experience Winter Survival Training as I did due to the rising winter temperatures and falling snow accumulation. However, I was carrying her through the snow while wearing a sweater without a jacket in January and the snow quickly melted in the days following our trudge through the snow. The massive amounts of melting snow often led to major flooding.

During the fifteen years my family lived in a house on the Red River, there were three major floods that threatened our home despite the fact that we lived in a “100-year flood plain” and home-threatening floods were only supposed to occur once in a person’s lifetime. Moorhead and surrounding cities were growing south while the river flowed north which meant more damming in addition to southern expansion of fields full of tired soil draining into the river before it flowed through the city. More frequent extreme weather patterns of precipitation and

²¹ Lahar, “Roots,” 93.

drought in addition to development resulted in the increased frequency of home-threatening floods.

We lived in a city that had the resources and cared to support people with homes threatened by floods. Few people lost their homes in Moorhead, MN—a beacon of human mastery over nature. After battling extreme floods a few years in a row, the city bought out houses along the river at fair prices, including those of my parents and grandparents who lived further north along the river. The city of Moorhead is small and at the time consisted of mostly middle-class white people. The story in Moorhead went differently than it often goes for marginalized peoples because local and federal support was provided, and long-term solutions were sought. In Moorhead, we supported each other through climate catastrophe that was a direct result of communal growth, but nobody spoke of climate change or slowing down. Nevertheless, the connections between climate change, industrial development, myths of infinite growth, and politics have been evident to me from an early age, accompanied by lessons of mastery over nature. For many years I went on unaware of the way my gender, race, and class shaped my experiences of the changing climate.

A part of every Moorhead Minnesotan's coming-of-age process was what we call Winter Survival Training. Each year, 4th graders from around the district would spend a week, or more if you had an older sibling in the know, prepping for a day in the wild. I remember collecting dryer lint for a month to use as kindling to start a fire and looking to see how my mom's delicious GORP²² stacked up against the mixtures of seeds, sweets, and cereal brought by my peers. After a week of being taught how to use a compass and watching horrific videos of people barely surviving misadventures in the snow, we were sent out across Buffalo River State Park in groups

²² Commonly known as trail mix.

of three to practice our winter survival skills which included starting a fire, cooking lunch over it, and using a compass to make our way back to our teachers. Looking back, I see the impracticality of the skills we were taught, but I also see an implicit lesson we learned in this practice: as humans, we have the power to overcome what nature throws at us. The “wild” is nothing to fear for those who have evolved beyond nature. In our preparation, we were not taught how to track direction using the sun or the stars; we were taught to use a compass. Rather than learning that all we need to survive comes from the earth we scavenged through human inventions and appliances to move through the day with ease. In essence, we could survive because we have evolved beyond, not because we knew, the earth we came from.

Beyond the mandatory Winter Survival Training, I was typically outdoors and could be found peering over the dock edge watching the sunfish circle their nests for hours on end in the early summer. In a way that many people no longer do, I grew into my current self in deep relationship to the living and moving systems around me. The intuition that I cultivated was and is a result of communing with the non-human world. When I was young, this relationship was never intentional, it was just how things were; though I did not give it a name at the time, looking back I can see that Gaia was known to me even then. While both of my parents worked in offices, we were not far removed from agricultural heritage on both the maternal and paternal sides of my family and much of our food came from family gardens, farms, and hunting escapades. Alongside this attunement to the environment came conflicting narratives about how I was supposed to be in relationship to the non-human world I encountered.

On one hand, there was the deer carcass hanging by the hooves from the garage ceiling to be split down the center. I only witnessed the inner system of a deer spill out one time, but that was enough to haunt me because it is still one of my most vivid memories. The smell of

decomposing flesh, blood, and bones is something I became familiar with. According to this narrative, violent power over nature was a way of survival. However, I was only allowed around the fringes of this side of the story, where people dominated over and above nature, because as a girl in my family I did not hunt and it was always acceptable for me to appeal to a man to take the fish off my hook. In my Lutheran church, or maybe just as a result of my Christian identity, I came to believe that the serpent was my demise but I'm not sure if my fear of snakes was rooted there or in the surprise encounters with garter snakes my brothers engineered as practical jokes. Either way, I did not dominate the serpent and the beast like my brothers did. A woman partnering with the wild was an evil and dangerous thing that once led to the demise of mankind. This narrative marked the continuation of patriarchal domination that has roots in the naming process of Genesis wherein man claimed name, and therefore knowledge, of every living thing.

On the other hand, there were the deer in the backyard—the ones that commanded the whole family's silence as we watched them eat their way slowly out of the tree cover and alongside the riverbank. The deer often tried and succeeded to make their way into the garden that I begrudgingly weeded by hand alongside my mother while my brothers mowed the lawn with motorized machines. I experienced these encounters and others to be sacred, sensing that there is both a distance between myself and the deer that makes the deer "other" to me and that there is a connection as I watched it eat from the poorly-weeded garden our food came from. Reflective of LeGuin's narrative of un-naming illustrated in the epigraph, experiencing the sacred requires meeting in a shared and raw material animality; a relationship that acts as a current drawing one further into their body and, thus, into the earth.

Within each narrative, the way that I related to the non-human world was different for me than it was for my brothers. Whether it was a heroic turtle rescue or violent hunt, I kept a

distance from the beasts we encountered. The exception, of course, was domestic household pets that needed care. All of this to say that my experiences of gender and non-human nature have always been entangled together amidst conflicting narratives. In a similar fashion, there was tension between two narratives I was immersed in regarding race in a place that lacked both racial and socio-economic diversity.

In many ways the tension I felt between the worldviews I experienced was a result of floating between the top and the bottom of identity binaries. Ecofeminism, with an intersectional lens that is inclusive of gender, sexuality, race, class, ecosystems, and species, is the framework that eased the tension between these narratives and allows me to move forward with hope. Since spending a blustery day in the cold with cheerios, raisins, and dryer lint in hand I have come to see a continuity between the myths that gave shape to my experiences. This continuity was reflected in the tension I felt as I bobbed up and down on the binary schema that constructed my reality. As an object of culture, I was above nature but only a little because I am a woman. As a woman, I was below man but as a white person I was above people of color within the binary schema that shapes the way I move through the world in my body. In addition to shaping the way I have been able to move through the world, these aspects of my identity also impact the risk and responsibility I experience in relation to climate change.

While much content of this dissertation is theoretical, the questions that have led me down this path are not: as a white middle-class woman living in the United States, can I justify having my own biological children? My intuition tells me that I cannot morally justify having biological children, but I am left with no framework to explain why. What does it mean to do and live well within the context of global change as someone whose socio-economic location has historically led her to be a part of the problem? There are statistics on overconsumption and

overpopulation, but the statistics do not convey why I in particular need to ask questions about the justification of children while a woman in the third world or a person of color in the United States does not have the same responsibilities. How do I make meaning out of and communicate my decision to others?

Foregoing children is the #1 practice to reduce carbon in the long run for people in industrialized nations: “For an American, the total metric tons of carbon dioxide saved by [driving a hybrid, driving less, recycling, using energy-efficient appliances, windows and light bulbs] all of those measures over an entire lifetime of 80 years: 488. By contrast, the metric tons saved when a person chooses to have one fewer child: 9,441.”²³ This calculation includes carbon saved for generations because not reproducing has an ongoing effect whereas recycling and driving a hybrid, all practices which require a level of privilege on their own, will only reduce carbon emissions during one’s own lifetime. However, the statistics are hardly consoling to people whose identities have been shaped around the promises of motherhood and grandmotherhood.

Pursuing the American dream, which includes constant financial growth, a big house, multiple biological children, a yard with green grass in the suburbs, a freezer stocked full of meat, and a car for every family member able to drive, is not a justifiable path for a white American female. This dream reflects the world I grew up in, but I know that I need to live into something different. I could consider the “green” alternative that includes living in the inner-city with one shared fuel-efficient car in a swanky downtown apartment filled with the latest

²³ Jennifer Ludden, “Should We Be Having Kids in the Age of Climate Change?,” *National Public Radio: All Things Considered*, last modified August 18, 2016, <https://web.archive.org/web/20190106181215/https://www.npr.org/2016/08/18/479349760/should-we-be-having-kids-in-the-age-of-climate-change>.

technology and shopping at Whole Foods Market®. However, when presented with these options, neither is satisfactory. Even the green alternative is only made possible by displacement, oppression, and injustice. Both options seem to flow out of the same assumptions of infinite growth, privilege, and individualism which are contradicted by the event of global change.

While the questions that drive this dissertation are particular, it is my hope that the resulting framework is useful for others in the pursuit of a good life amidst the historical, current, and future context of climate change. As a member of a society where individuals produce carbon emissions at levels that have created the issue of global warming, and as someone whose life has benefited from the overuse of resources, I share primary responsibility for the issue of climate change. Thus, the burden of these burning questions should fall upon my shoulders in proportion to which my lifestyle has caused the issue. Recognizing that the American dream is the antitheses of climate change, I have had to reconstruct a vision, something that has yet to be actualized, based on a new understanding of what the world is and who I am as a part of the earth system.

The ecofeminist ethic of embodied agency that I propose is not an all-encompassing solution meant for everyone, but it is one of many possible frameworks for those of us who have operated with our head above the clouds as we become grounded once again. Seeing and feeling our feet on the ground allows us to see who and what we have been walking upon, making visible the damage that has resulted from walking with our heads in the clouds.

Methods

In the face of global change there is a deep need for ontologies that hold the best science of today at the center so that people can better understand the exchange of affect that embeds us

in the earth system. However, moving forward with scientific worldviews lacking a historical mediator creates an aptitude for repetition of past mistakes, likely leading to deeper power imbalance and injustice. An ecological worldview requires that human societies be understood as relational material systems. However, the scientific practice of ecology does not inherently involve critique of the human species, probably in an effort to maintain a reputation as “value free” scientific discipline. Any just response to climate change must incorporate a historical consciousness that includes the relational systems of human societies in the context of the larger earth system in order to illuminate the power dynamics at play as circumstances for climate change were set forth. Without a historical consciousness, there will be mass human loss, especially for those who have contributed to climate change the least.

It is not enough to know how climate change came about, predict how people will be impacted, and seek scientific solutions to slow the progress through the process of disembodied knowledge production. As such, I will use the discourse of ecofeminism to trace the evolution of the environmental crisis and scrutinize the political and power relationships that have catalyzed climate change. These imbalanced relations are in direct correlation with the injustices currently manifesting in the wake of global climate change. Bringing to light the ramifications of being relational agents, ecofeminism connects the oppressions of humans, other animals, and the earth-system. In this way, ecofeminism lends itself to integration with systems ecology. Ecofeminism provides the moral lens through which I approach the problem of climate change.

In order to motivate people to engage, people of the West must see themselves within the historical narrative of the earth leading up to climate change and in relation to the suffering of other beings that has resulted from climate change. To move forward with one’s interests without looking back is the function of privilege and would serve to be an injustice to those bodies,

human and otherwise, that privileged bodies are built upon. I will examine the ways in which linking ecofeminism with Gaia theory without a proper ontology puts ecofeminists at risk of many issues they criticize in dominating Western paradigms. One must understand the issues and the system one is acting within in order to respond to climate change adequately. I will employ systems ecology, and in particular Gaia theory, to provide a scientific understanding of the earth humans live on as ecofeminists have done in the past.

New materialisms provide an understanding of humans as embedded material agents in relationship with other agents—a panagential ontology that provides the necessary link between ecofeminism and Gaia theory. New materialism offers a contrast to dualistic worldviews, which ecofeminists point to as one of the root sources for human exploitation of the environment while at the same time affiliating Gaia theory with Gaia the goddess. Like other materialisms such as the one Francis Bacon operated on, which will be examined in Chapter 1, new materialism asserts that nothing exists beyond the material realm of matter. However, new materialisms differ in that they attribute agency to matter, rendering matter active rather than mechanistic.

After I establish that agency implies value and that all agents are systems, then the earth-system maintains both value and agency in relation to humans as moral beings. Under a panagential ontology, morality must consist of negotiating interactions amongst agents in a way that is favorable to particular bodies which construct and are constructed by smaller and larger systems that have no clear boundaries of separation, as an ecological ontology will later make clear, while at the same time holding agency as distinct material entities. Morality is the active engagement of one's agency to influence the transient processes of material and energy exchange in a way that promotes flourishing within the relevant system of relations. In active hope of minimizing tragedy soaked in injustice that has already been experienced in the wake of climate

change, I will suggest principles of an ethic of embodied agency stemming from an ecological ontology of panagentialism as a promising framework that calls for engagement of one's agency through bodily action in relation to other agents.

Alone, the main discourses I rely on for this work would not adequately inform responses for climate change. New materialism is a mode of thought that brings the significance of materiality back to the forefront, replacing a dualistic metaphysics with a monist, material-based ontology. While it is not in opposition to ecological understanding, it also does not encompass it. Ecofeminism offers a critical historical awareness that unveils connections of oppression under patriarchy and a refocus on ecological models for future relations but does not itself serve as an ontology or scientific understanding. Systems ecology is a branch of science that lacks language of value and Gaia theory remains a fringe theory within the discipline, but neither contains a historical consciousness for human relations. Together, these discourses call for an embodied moral disposition in agential relation towards other bodies and systems of relationships. This disposition emerges based on relations of the past that have brought the present and future into being, and is oriented towards the flourishing of interrelated beings. This is a framework worth exploring because it presents humans as moral beings in a system with a changing climate that demands a radical shift in the way some people understand themselves to be in relationship with the earth, and thus a shift in practices.

Through bringing new materialism into conversation with Gaian ecology and ecofeminism, I am aiming to construct an eco-ethics directed at those like me whose lifestyles and worldviews have contributed the most to global climate change and who will likely suffer the least. A stark distinction between beings deserving of moral consideration and those irrelevant to morality is not viable in an ecological worldview. Consideration of the network of

relationships affected by the actions of each member of a network is a vital aspect of developing a dynamic moral ecology. It is not enough to simply urge people to respond to climate change and transform their ways of life following policy guidelines and utilizing the latest technology. It is essential, especially for privileged populations living a lifestyle idealized by the capitalist West, that new moral frameworks reflecting a realistic ontology are brought forth to help people better understand who and what humans are and how people are a part of the earth system.

Through relocating the root of agency and power to the material body, dynamic moral ecology calls for embodied practices from creatures that wield the capacity to creatively influence and be influenced by other beings. To understand ourselves, we must understand the system we compose and are composed by; once we understand our ecosystem, we can find ways to participate in it that support the flourishing of all bodies and the systems that they encompass and are encompassed by. An ecocentric perspective is the only hope for a continued flourishing humanity, and an anthropogenic solution is the only hope for environmental justice. Humans have an amazing capacity to influence the earth system, of which we are part and parcel. However, in the West this capacity has been exercised from a standpoint of domination and caused much damage to beings who are not part of the dominating class.

In the following chapters, I will explore major issues of the dominating paradigm through ecofeminism and demonstrate the ways ecofeminists have been at risk of falling into the same problematic patterns they identify, especially in dialogue with Gaia theory. I will then give a brief overview of Gaia theory including the broader implications it has beyond the sciences, demonstrating that Gaia theory is not a fit partner to an ontology that is also shaped by Gaia the goddess. Suggesting new materialism as a discourse that provides a proper ontology to hold both ecofeminism and Gaia theory together, I will explore five nodes, or points of intersection

between the discourses. To conclude I will present principles of dynamic moral ecology that flow from these points of intersection and form an ecofeminist ethic of embodied agency.

Chapter 1: Ecofeminism

The ethics of a lifeboat world where the imperative is survival are wholly different from those of the cozy self-indulgence of that latter part of the twentieth century. I cannot help wondering how we will manage—how those of us who live on the more desirable parts of the Earth will decide whom among the thirsty will be allowed to enter... the majority of us are urban, caring little for the world outside the city and not understanding that all our lives depend upon it.

-James Lovelock, *The Vanishing Face of Gaia*

Having already demonstrated a need for an ecofeminist ethic in the Introduction, in Chapter 1 I will lay out the ways current ecofeminist uses of Gaia theory are at risk of many of the same problems ecofeminists have criticized in Western dualist ontologies. Without a new ontology, ecofeminists are at risk of committing the same pitfalls of a Western paradigm that ecofeminists identify: 1) sanctifying science through a universalized epistemology; 2) upholding a dualist metaphysics that relies on the distinction between either spirit/matter or reason/matter, and essentialized women with the earth; 3) relying on hierarchical organizational patterns; and 4) maintaining an ethic based on the individual in relation to infinite resources. By linking Gaia theory to Gaia the goddess, ecofeminists are at risk of falling into the same traps it was critiquing—namely, consecrating science and relying on a dualistic metaphysics. The thea-fication of Gaia theory is problematic for ecofeminism because 1) a thea-fication is still a deification consecrating science, risking the same problem of the past in which there is only room for one perspective; 2) it maintains a hierarchical, dualist conception of the earth which contradicts Gaian science and perpetuates an essentialism of the feminine with the earth; 3) it allows for hierarchical organizational patterns to emerge; and 4) it perpetuates an ethics based on tension between the individual and the whole. In order to demonstrate these risks, I will first

provide an overview of ecofeminist critiques of the Western paradigm as outlined above. I will then argue that ecofeminists are at risk of falling into many of the same pitfalls, as is demonstrated by some of the major issues that have brought ecofeminist discourse into question in the past. Finally, I will explore what ecofeminism has to offer as a moral framework in response to climate change.

The work of ecofeminists such as Rosemary Radford Ruether, Carolyn Merchant, Vandana Shiva, Karen Warren, and Greta Gaard, along with voices of eco-womanists such as Melanie Harris, and in a later chapter Dorcetta Taylor, will shed light on the power dynamics of oppressive relationships and shape a vision for a future that is just for humans and other members of the earth body. My goal in this chapter is to illuminate oppressive practices and dismantle them with the recognition that all bodies are both particular and connected through complex systems of relationships. As such, we must understand the relationships that have brought about the current crisis of global change and will continue to nurture injustice and oppression if not transformed.

Critiquing the Western Paradigm

Ecofeminism emerged in opposition to Western paradigms that entangled power with particular ways of bodily being in which women found themselves on the underside of a bifurcated division alongside other oppressed beings including the earth as a whole. This damaging entanglement is manifest in Francis Bacon who said: “I am come in very truth leading you to Nature with all her children to bind her to your service and make her your slave... We have no right to expect nature to come to us. Nature must be taken by the forelock, being bald

behind.”²⁴ For Bacon, nature was separate from the cultural realm of humans and was to be both objectified and made subject to the curiosities of man. Under Baconian science, scientists became the priests of reason while reason became the universalized perspective—the new God’s eye view. Since humans were believed to be the only ones capable of reason, particularly white male humans, they maintained their place on the top of the hierarchy. However, all things without reason, women and people of color included, were unable to transcend their bodily being and so were treated as resources to be used toward the development of capital for white men. This paradigm characterized by dualisms, universalisms, hierarchies, and privileging of the individual created and perpetuates the process of global change.

Universalization to Consecration

Knowing a thing by name is the most effective way humans are able to construct meaning and create a communicable narrative out of our experiences; language is a powerful tool. Yet, by constructing and labeling categories a reality is created that does not totally encompass the complexities of the experienced world. Naming things conveys a sense of knowledge, understanding, and power that can get in the way of the relationship one might develop with a thing through seeking to understand the other thing which is perceived to be outside the self. As Elizabeth Kolbert recognizes in *The Sixth Extinction*, “With the capacity to represent the world in signs and symbols comes the capacity to change it, which, as it happens, is

²⁴ Carolyn Merchant, *The Death of Nature: Women, Ecology, and the Scientific Revolution* (New York, NY: HarperOne, 1983), 170.

also the capacity to destroy it.”²⁵ Naming a thing is the powerful act of putting something vibrant and complex into a simple box.

Naming and renaming things has been and continues to be a practice exercised by colonial powers in an effort to break down the relationships formerly composed by colonized peoples. However, naming can also be a sacred process that honors the relationship and agency of a thing. As a means to communicate, language is inherently a relational tool as LaDuke expresses: “Through relationship we can perceive how language determines thought and reality...”²⁶ The way we talk about material reality impacts our experiences of ourselves and the world. This process of naming and renaming has allowed people to construct and imagine a singular world disconnected from experienced material existence. By positing human reason on the top of the bifurcated dualism, Western epistemologies tend to assume a universal disembodied vantage point.

When we fail to name oppression for what it is, or simplify it through universalized assumptions and vantage points, the language of the oppressor becomes a tool of domination that gives rise to experience. For example, the universalization of colorblindness created a veil over the experiences of black and brown bodies in America. The tendency to universalize experiences and epistemologies can be seen in official global documents, such as *The Earth Charter*, in relation to climate change, projecting it as a universal issue in which all people are responsible for creating the problem and calling for universal responsibility:

To realize these aspirations, we must decide to live with a sense of universal responsibility, identifying ourselves with the whole Earth community as well as our local communities. We are at once citizens of different nations and of one world in which the local and global are linked. Everyone shares responsibility for the present and future

²⁵ Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History* (London, England: Picador, 2015), 258.

²⁶ LaDuke, *Recovering the Sacred*, 67.

well-being of the human family and the larger living world. The spirit of human solidarity and kinship with all life is strengthened when we live with reverence for the mystery of being, gratitude for the gift of life, and humility regarding the human place in nature.

We urgently need a shared vision of basic values to provide an ethical foundation for the emerging world community. Therefore, together in hope we affirm the following interdependent principles for a sustainable way of life as a common standard by which the conduct of all individuals, organizations, businesses, governments, and transnational institutions is to be guided and assessed.²⁷

The Earth Charter, still a widely-used and circulated document, clearly articulates a universal responsibility for climate change rather than identifying societies that have a greater responsibility for creating the issue.

The Paris Climate Agreement offers a more nuanced reference to common responsibility, recognizing that to place equal responsibility on all signed parties would be an injustice, not because of differing level of contribution to the problem, but because developing nations should have opportunity to pursue development without being hindered by restrictions not placed on developed nations:

Emphasizing the intrinsic relationship that climate change actions, responses and impacts have with equitable access to sustainable development and eradication of poverty... Also recognizing that sustainable lifestyles and sustainable patterns of consumption and production, with developed country Parties taking the lead, play an important role in addressing climate change...²⁸

While an improvement, the Paris Climate Agreement continues to put the poorest people at risk with loose and meager goals, and no power of enforcement. Rather than questioning the process of development to slow down and stop developed nations from continuing emissions, it offers a

²⁷ Earth Charter Commission, "The Earth Charter," Earth Charter Initiative, accessed January 6, 2019, <https://web.archive.org/web/20190106211131/http://earthcharter.org/discover/the-earth-charter/>.

²⁸ United Nations, *Paris Agreement* (Paris, France: 2015), 1-2, accessed January 6, 2019, https://web.archive.org/web/20190106213722/https://unfccc.int/sites/default/files/english_paris_agreement.pdfhttps://unfccc.int/sites/default/files/english_paris_agreement.pdf.

weak game plan to offset emissions with carbon sinks. The solutions offered by the Paris Climate agreement continue to put the world's poor, who also happen to be the people least responsible for climate change, at the greatest risk.

Adriano Campolina, Chief Executive of ActionAid, put it this way:

The elevated status and hype around the idea of a 1.5-degree warming limit didn't result in any real and concrete commitments. A limit of 1.5 degrees Celsius cannot be achieved with the emission cuts rich countries put on the table, which will in fact lead to temperature rises of 3 degrees. The Paris agreement needed to set a clear pathway and targets for countries with the most responsibility for causing climate change to curb their emissions and to provide support.²⁹

While The Paris Climate Agreement recognizes difference rather than assuming universal responsibility, the 2015 Adoption of the Paris Climate Agreement also states that "Article 8 of the Agreement does not involve or provide a basis for any liability or compensation," so any financial support developed countries provide to developing countries must be given on a voluntary basis.³⁰ Thus, developed nations have no concrete obligations to take responsibility for the actions and lifestyles of their peoples which have threatened the well-being of others.

In a universe governed by reason, men were the only ones able to harness the powers of nature. Beliefs disconnecting mankind from the rest of the material earth system have allowed Western peoples to operate as if the laws governing nature, and even other humans, do not apply to us in the same way. Lahar points out that "[i]nvisibility and, ultimately, violence happen most easily within a short-sighted and fragmentary mindset that is isolated from the existence and

²⁹ Cora Bauer, "Climate Agreement Falls Short of a fair deal- but Paris is only the Beginning," ActionAid International, last modified December 12, 2015, <https://web.archive.org/web/20190106215833/http://www.actionaid.org/news/climate-agreement-falls-short-fair-deal-paris-only-beginning>.

³⁰ United Nations Framework Convention on Climate Change, *Adoption of the Paris Agreement: Proposal by the President* (Paris, France: 2015), 8, accessed January 6, 2019, <https://web.archive.org/web/20190106221339/https://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf>.

needs of others, qualities that characterize a modern, reductionist, and patriarchal intellectual and scientific tradition.”³¹ Here, Lahar forces us to grapple with the actual violence done to bodies of others in the process of developing a disembodied perspective. In order for global change responses to include a social justice component, it is vital that the web of oppression that links the earth and marginalized people is understood and addressed in the shaping of responses. A universalized epistemology based on reason does not allow for many perspectives and experiences nor does it require material embodiment.

According to a universal epistemology, there is a right perspective that is best expressed as a “god’s-eye view” of the world. In contrast is a situated epistemology that is centered by a perspective and context. Like Donna Haraway, “I am arguing for the view from a body, always a complex, contradictory, structuring, and structured body, versus the view from above, from nowhere, from simplicity.”³² Bodies provide situated perspectives and operate in relationship and as part of systems of material bodies rather than assuming a singular vantage point from above.

Further, assuming a universalized humanity in order to conveniently slough off responsibility for climate change perpetuates the oppressions that result from a universalized epistemology. Climate change is an unanticipated consequence of colonization which includes the global industrialization of developing nations by Western nations. Climate change is indeed a global issue, but contrary to what has been proclaimed in documents such as the earth charter, the Paris Climate Agreement, and the Millennium Ecosystem Assessment Board, not all people are responsible for climate change. We must unname the universalized environmental history

³¹ Lahar, “Roots,” 96.

³² Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14.3 (Autumn 1988), 589, <http://www.jstor.org/stable/3178066>.

that deems humanity as a whole responsible for climate change in an effort to see what is really there—to decolonize the ecological history of climate change. Universal responsibility is reflected in the move to name the current time the “Anthropocene” as if all people have contributed to leaving harmful marks embedded in the earth’s crust.

Dualism to Bifurcation

In *The Death of Nature*, Carolyn Merchant traces the entangled relationship between metaphysics, science, and society, identifying the process through which problematic dualisms emerged. Merchant recognizes the need to explore history with an ecofeminist lens:

Conversely, new interpretations of the past provide perspectives on the present and hence the power to change it. Today’s feminist and ecological consciousness can be used to examine the historical interconnections between women and nature that developed as the modern scientific and economic world took form in the sixteenth and seventeenth centuries—a transformation that shaped and pervades today’s mainstream values and perceptions.³³

Merchant illustrates this history through the transformation from the organic mother-earth to the mechanistic understanding of nature. I agree with Merchant that both models are problematic because the first romanticizes nature as a provisional mother and ties constructs of nature and femininity together, while the second is problematic because it reduces the earth to an object of utility understood through human laws of reason.

Merchant traces the transformation of the predominating earth model in Western thought from an organic model to the currently dominating mechanistic one. She argues that both models have characterized the earth as female. Feminine characterizations of the organic model ranged from a nurturing mother offering herself to give life to a wild and untamed woman in need of

³³ Merchant, *The Death of Nature*, xx.

domestication.³⁴ As Merchant reminds us, “A view of nature can be seen as a projection of human perceptions of self and society onto the cosmos.”³⁵ The imagery of nature as a nurturing mother and wild and untamed woman are reflected in the narratives I received within my family systems as I gently tended the garden or raked leaves with my mother while my father and brothers hunted deer and mowed the lawn.

Merchant argues that we have lost the organic model of the earth that dominated societal structures up until the 16th century with the emergence of modern science, which portrayed the earth system and material bodies within to be a fully understandable mechanistic system to be used for human utility. She traces the transition from the organic model to the mechanistic model, arguing that it was the changing needs of society in addition to Baconian science, a method for manipulating nature to meet those needs,³⁶ which drove the transformation of the ecological model from organic to mechanistic. Bacon’s science became the tool to cure the hysteria of the earth, and reason was the vehicle for man’s ascension beyond and over nature in order to dominate it rather than be sustained by nature. Thus, while not a theistic dualism, rationality took the place of God in the theology of the modern sciences, rendering even mechanistic materialism dualistic. Far more than being the father of modern science, “Bacon fashioned a new ethic sanctioning the exploitation of nature” by “[m]elding together a new philosophy based on natural magic as a technique for manipulating nature, the technologies of mining and metallurgy, the emerging concept of progress and a patriarchal structure of family and state.”³⁷ Women and nature were reduced to basic biological functions to be exploited while

³⁴ Merchant, *The Death of Nature*, 2.

³⁵ Merchant, *The Death of Nature*, 43.

³⁶ Merchant, *The Death of Nature*, 186.

³⁷ Merchant, *The Death of Nature*, 164.

man transcended and dominated. The same can be said for marginalized peoples being colonized, enslaved, and displaced due to global change. This dualism led to a value system based on bifurcation in which humans dominated over nature, man reigned above woman, spirit above the body, and white above bodies marked by other colors.

The connection between the organic image of the earth and the socially constructed female identity is present for both the nurturing and wild images of the organic earth. Under the first, the earth and mother are romanticized as caring providers while under the second, women and the earth need to be tamed and controlled—healed of their own hysteria by the rational powers of man. Moving into the mechanistic model, as the reproducers of humanity, women were seen as less able to engage in learning and reason as they tended to their biological processes. While men transcended the laws of nature, women were stuck within them, resulting in the economic dependence of women on men.³⁸ The new mechanical framework was conducive to an economy of production; the earth is a mechanism in the process of industrialization with resources to be harvested and used to support the rise of men over nature while women were deemed as the vehicles of reproduction. The power and value of man was attained by rising above one's nature through reason and knowledge, a pursuit women were barred from engaging in for the most part because of their inability to rise above their biological reproductive functions. Both women and the earth became tools of production rather than agents of reason. A strong capitalist economy relies on the production of workers and continuity of resources.

As Ruether points out, dualism pervaded human social organization, causing a split between private and public life as well. This split allowed public society to become a sphere that

³⁸ Merchant, *The Death of Nature*, 163.

functions on “rationality” or, rather, the arena of competition for male egos. In turn, “[w]ith the secularization of society, religion and morality become feminized or privatized.”³⁹ This bifurcation is what has led to the development of inconsequential green solutions aimed at women who govern the private realm mentioned in the Introduction. The division between private and public life has created a gap between political responses to climate change and privatized responses. Identified with a mechanistic earth that serves as an infinite bank of resources, women became custodians of the home. If wealthy enough to afford green products, our power as capitalist consumers can be used toward solutions with little real consequence.

The binary constructs that flow from a dualistic ontology also pervade other categories of being in addition to human/earth and man/woman: white/colored, western/other, civilized/uncivilized, wealthy/poor, heterosexual/LGTBQ, and human/animal. In each case the privilege goes to the category on top. These distinctions are based on false assumptions of separation; there is difference but that difference spans across a scale and does not require difference in value indicated by a hierarchical orientation to these bifurcated identities. The challenge will be to seek out new language that collapses the binary conceptualizations of the world since, as Merchant reminds us:

Descriptive statements about the world can presuppose the normative; they are then ethic-laden. A statement’s normative function lies in the use of itself as description. ... The writer or culture may not be conscious of the ethical import yet may act in accordance with its dictates. The hidden norms may become conscious or explicit when an alternative or contradiction presents itself. Because language contains a culture within itself, when language changes, a culture is also changing in important ways.⁴⁰

³⁹ Ruether, *New Woman, New Earth*, 199.

⁴⁰ Merchant, *The Death of Nature*, 4. Illustrative of this statement is the lack of antonyms for “hierarchy” that don’t suggest chaos or lack of organization (I use holarchy) and the fact that the antonym for patriarchy is listed as “matriarchy” (I use ecocentrism).

Not only is Merchant's statement telling of the ways models of the earth have shaped culture in the past, it demonstrates why there is a need for new earth-models, such as Gaia theory, that will create a societal shift. The problem is related to an ongoing issue within ecofeminism itself: the need for new language that does not rely on the bifurcated ontology of the Western paradigm ecofeminists stand to critique. Merchant points out that the needs and developments of society can conflict with an ecological model, causing a shift in the way that society perceives nature.⁴¹ This is precisely the shift that climate change begs for as the needs of society should shift in response to the transforming environment that does not yield to universal laws of reason placed upon it by rational man. In addition to dualisms being problematic, the hierarchical orientation is constructed on a foundation of oppression in which one category is always above the other.

Hierarchy

As suggested by the term "global change," there is much more at risk than a changing climate, especially for those who have been placed ontologically below the universal vantage point—at the bottom of the hierarchy. Communities, homes, individual lives, and entire species are at risk. The historical context of colonization and globalization must be examined for the role these phenomena have played in impacting the environment and for the social setting in which climate change is taking place and resulting in deep injustice. Ecofeminists tend to disagree on a myriad of issues, but the central conviction that holds the discourse together is that the oppressions experienced by those on the underside of the binaries listed above is a result of the same worldview and the dominating Western system that has been constructed on that worldview.

⁴¹ Merchant, *The Death of Nature*, 41.

In order for liberation to be experienced by any one category of bodies, the entire system must be changed so that liberation can be experienced by all. As Janis Berkeland explains, “It [ecofeminism] is about changing from a morality based on ‘power over’ to one based on reciprocity and responsibility (‘power to’). Ecofeminists believe that we cannot end the exploitation of nature without ending human oppression, and vice versa.”⁴² An up-down orientation requires someone to be privileged over someone or something else.

In *Gaia and God*, Ruether reflects on the impact Galileo’s discovery that the earth circles the sun had on society, stating that: “Not only did the heliocentric view shift the entire focus of reality from an earth-centered world to one where earth was a minor planet circling the sun, but it also destroyed a whole moral and spiritual system that had been built on this earth-centered view.”⁴³ Her reflection demonstrates yet again that the way people conceive of their place in the universe has great implications for the way we interact with what we have the power to influence. Instead of the earth being the pinnacle of creation and humans beings the pinnacle of the earth, the heliocentric model required a restructuring of the constructed cosmological hierarchy.

Despite a growing body of support for Galileo’s claim that the earth revolves around the sun he remained under house arrest until his death, a total of nine years’ imprisonment for a scientific discovery. However, Galileo was not the first to suspect that the earth and other planets revolve around the sun. About 100 years before him, Nicolas Copernicus had made the claim and gained a few followers including Giordano Bruno, who was burned to death for teaching

⁴² Janis Berkeland, “Ecofeminism: Linking Theory and Practice,” in *Ecofeminism: Women, Animals, Nature*, ed. Greta Gaard (Philadelphia, PA: Temple University Press, 1993), 19.

⁴³ Rosemary Radford Ruether, *Gaia & God: An Ecofeminist Theology of Earth Healing* (San Francisco, CA: HarperOne, 1994), 33.

Copernicus' theory in 1600, just a few years before Galileo observed moons orbiting Jupiter, which implied that a geocentric cosmology was wrong. Yet, even after the mounting proof it was not until the 19th century that the geocentric model was dropped by the church and the teaching discontinued. Fortunately, the acceptance of heliocentrism did not carry the same level of urgency or need for action that climate change carries with it. Like the discovery that the sun does not revolve around the earth, a discovery that shook the world of the religious ruling class and landed people on their deathbeds or in prison, climate change poses a threat to the metaphysical, ontological, and ethical paradigms embodied by today's ruling class.⁴⁴ Rather than moving from a geocentric model to a heliocentric one with the discovery that our solar system revolves around the sun, we moved from a geocentric metaphysics to an anthropocentric one in which humans still stood atop a hierarchy of being; while the earth may have been knocked down humans remained on top.

While some, like Lynn White, point to Christianity's notion of dominion as one of the main formative aspects of the Western worldview that has led to this paradigm of domination,⁴⁵ we cannot separate religious understandings from scientific ones. Equally attributable to this crime are the mechanization of the earth and separation of nature and culture. Religion and science do not operate in separate spheres but are integrated in people's worldviews; Ivonne Gebara recognizes that "It is no longer possible to separate the religious sphere from that of scientific discovery, as if they were two entirely different discourses. Neither is it possible to think of women and men as religious beings independent of the religion that is embodied in the

⁴⁴ Industrialized nations and the upper classes of industrializing nations.

⁴⁵ Lynn White, "The Historical Roots of Our Ecological Crisis," *Science* 155.3767 (March 1967): 1205, <http://www.jstor.org/stable/1720120>.

earth and the cosmos.”⁴⁶ These discourses have influenced and shaped one another throughout history, often operating not as separate discourses but as one and the same, as is the case with Galileo’s assertion that the sun does not revolve around the earth. Ruether argues:

Patriarchal religions have always been marked by an incredible and paradoxical duality of perspective. They preach domination over the earth while at the same time exhorting us to loathe matter and struggle against the body... To at least admit the existence of this ambiguity is the first step toward refashioning our beliefs within a perspective that allows us to treat all living things with respect.⁴⁷

Undergoing this admission is necessary for the development of new frameworks and adopting belief systems that shape societal identity and practices. However, this paradigm of domination is deeply intertwined with both scientific and religious conceptions of, and therefore lived relationships with, the earth.

Ethic of the Individual Consumer

What the Anthropocene marks is the appearance of neocolonialism in the form of what Ruether names corporate globalization, and the processes of colonization through industrialization in *Integrating Ecofeminism, Globalization, and World Religions*. She draws out the ways that the roots of globalization can be traced to colonization, identifying globalization as “the latest stage of Western colonialist imperialism.”⁴⁸ The West continues the process of colonization by offering promises of industrialization while instead exporting labor and natural resources out of developing nations and into the economies of colonizing nations, such as the United States. Ruether identifies the locus of power in neocolonialism and the Bretton Woods

⁴⁶ Ivone Gebara, *Longing for Running Water: Ecofeminism and Liberation* (Minneapolis, MN: Fortress Press, 1999), 6.

⁴⁷ Gebara, *Longing for Running Water*, 7.

⁴⁸ Ruether, *Integrating Ecofeminism, Globalization, and World Religions* (Lanham, MD: Rowman and Littlefield, 2004), 1.

institutions.⁴⁹ She traces the ways that these institutions undermine the governments and economies of third world nations by creating cycles of debt and blaming the inefficiencies of government, rather than high interest rates, for failures to meet the requirements of the loans.

The privatization of natural resources, such as water and seeds, allows for the wealthy to exploit the poor to an even greater extent. Furthering the divide, pressures to cut back on greenhouse gas emissions create a clash between the wealthy, whose maintenance relies on continued economic growth and fossil fuel use, and the rest of the world whose future relies on maintaining a balanced ecosystem.⁵⁰ This connection between capitalist dependence on continued exploitation and climate change illustrates the ways that climate change, driven by neocolonialism, has created a world population that is triply vulnerable due to increased environmental threats, exploitation of local resources, and lack of wealth.

Climate change and the effects that follow are evidence that the moral framework the West is currently operating on is deeply problematic. Klein calls this a culture and economy of extractivism:

...extractivism is a nonreciprocal, dominance-based relationship with the earth, on purely of taking... It is the reduction of life into objects for the use of others, giving them no integrity or value of their own—turning living complex ecosystems into “natural resources,” mountains into “overburden” (as the mining industry terms the forests, rocks, and streams that get in the way of its bulldozers). It is also the reduction of human beings either into labor to be brutally extracted, pushed beyond limits, or, alternatively, into social burden, problems to be locked out at borders and locked away in prisons or reservations. In an extractivist economy, the interconnections among these various objectified components of life are ignored; the consequences of severing them are of no concern.⁵¹

Beyond green solutions to development that allow continued operation on principles of extractivism and infinite growth, it is necessary to undergo a paradigm shift of the ontological

⁴⁹ Ruether, *Integrating Ecofeminism, Globalization, and World Religions*, 3.

⁵⁰ Ruether, *Integrating Ecofeminism, Globalization, and World Religions*, 14.

⁵¹ Klein, *This Changes Everything*, 160.

ground we have been ignoring as our heads float above the clouds. An economy of extractivism relies on the dominating dualistic perspective in which there is a division between the material bodies that use resources and those that are used as resources.

Ruether argues that the underlying justifications for the continued colonization and oppression of third world peoples can be traced to “neoclassical economic liberalism” and the rhetoric of “religious fundamentalisms.”⁵² Under these ideologies humans are considered to be self-interested individuals in pursuit of economic growth; the American Dream has become the Promised Land and teleological driving force. Ruether identifies the entanglement between economic growth and “American messianic mission” which means that any threat to the economy becomes a threat to the American theological mission.⁵³ Thus, anything in opposition to America’s economic growth is deemed as evil. If democratizing the world is a messianic mission and requires America to maintain its economic and military power, then the exploitation of the “enemies” to this mission and to the earth may be justified. However, climate change itself poses a threat to the metaphysical foundations of America’s divine mythology.

In order to justify maintaining the status quo, the ideologies that uphold America’s middle-upper class lifestyles must remain untainted and achieving this level of redemption must remain a perceived possibility for white America’s lower class. Maintaining the status quo requires the continued oppression and exploitation of the earth and bodies that are not part of the privileged classes. Ideologies that manifest in daily practices have concrete consequences, as LaDuke articulates: “With the crush of industrialization and greed comes the loss of life. Species after species is obliterated from the face of the Earth, from frog diversity to human diversity.”⁵⁴

⁵² Ruether, *Integrating Ecofeminism, Globalization, and World Religions*, 33.

⁵³ Ruether, *Integrating Ecofeminism, Globalization, and World Religions*, 37.

⁵⁴ LaDuke, *Recovering the Sacred*, 68.

With each purchase of a McMansion or upgrade of a smartphone, the broken and displaced bodies are left unseen. This neglect has consequences because, while violence may not be the intention of consumerism, “[i]nvisibility and violence are strangely and intimately related; refusing to perceive or acknowledge another person is one end of a continuum whose other is murder and genocide.”⁵⁵ In order to pursue just responses to global change, we must first name the violence that has taken place leading up to it in order to illuminate the relational nature of suffering and oppression.

As such, it is a mistake of Western moral discourse to operate as if the moral being is an isolated individual. The concept of freedom has been a pillar upon which the Western world is built, but it has manifested in freedom from others rather than freedom for others. Critiquing the Cartesian conception of freedom, Shiva writes:

The Cartesian idea of freedom is based on separation and independence. This conception of independence has its roots in capitalist patriarchy and allows powerful men owning capital and property, while dependent on women, farmers, workers, and other cultures and species, to pretend they are independent. Furthermore, these men can pretend that those whom they exploit and who support them, are dependent on them.⁵⁶

An isolated individual cannot live without relationship; this notion of freedom characterized by independence of an individual is an impossible task. Rather, in order to obtain “freedom” the others that an individual are dependent on are erased from moral consideration.

Cleaning out the Master’s Tools

Sitting around a table in a DC mansion, I listened to mostly wealthy white educators, politicians, non-profit directors, and leaders try to package sustainability in a shiny green box

⁵⁵ Lahar, “Roots,” 93.

⁵⁶ Vandana Shiva, *Earth Democracy: Justice, Sustainability, and Peace* (Cambridge, MA: South End Press, 2012), 113.

with a reusable bowl. Sustainable living can be appealing—a chic downtown apartment within walking distance to work and a shared fuel-efficient vehicle is a dream for many young professionals and far more sustainable than life in the suburbs. What the people at the table were unwilling to see is that their vision requires great sacrifice, not by young professionals moving into the city, but of the bodies that resided in the city prior to gentrification; the lives that are increasingly complicated as they are forced outward away from their work and their communities. As the people at the table questioned why movements such as Black Lives Matter have not joined forces with the green movement, the staff, comprised of mostly black and brown bodies, greeted guests, took coats, and prepared the food in another room.

The scene above is significant, because it reveals that the pursuit of sustainability itself has a violent history and violent potential; we cannot allow the pursuit of sustainable development to become a shiny green version of colonization. Hence, the importance of intersectional ecofeminism as lens for historical contextualization of environmental history. We cannot balance the price of sustainability on the backs of those who have already been forced to pay the price for development. As Gebara points out, “[w]e know that most of the waste is not produced by the poor. They are not owners of polluting industries, of nuclear power plants, or of the military headquarters at which wars are planned: neither are they the principal consumers of canned and packaged goods.”⁵⁷ The universalization of responsibility for the global change crisis is an injustice as is the pursuit of sustainable *development* for Western nations. The interrelationship of colonization and global change means that moral responses to climate change “...cannot happen by infinite expansion of the present patterns based on unjust social relations

⁵⁷Gebara, *Longing for Running Water*, 3.

between the sexes, classes, and nations and a destructive relation to the earth.”⁵⁸ Yet, the temptation to rely on people who have traditionally and historically been in closer communion with nature remains strong.

The systemic oppression of indigenous peoples, the oppressive circumstances that cause black and brown bodies to have the historic knowledge and skills necessary for sustainable agriculture, and the gender roles that make dealing with earthy, bodily stuff women’s work make relying on the knowledge gained from those oppressions a reinforcement of the colonization that created those circumstances. In cases where the circumstances of the oppressed have led to a more immediate relationship with the surrounding environment, it will be important going forward to not require marginalized people to lead the charge in adapting to climate change. Historically, the knowledge gained from being relationally closer to the earth is a result of oppression and marginalization. Likewise, it is an injustice to turn to indigenous people to call forth their historical traditions that have been forcefully and systematically erased from their collective memory through colonization.

Engaging in the activity of composing relations is a task that requires much more responsibility than the task of consumerism precisely because of the inability to escape history. Human beings are, materially and relationally, in and of the earth; even deeper than in relation to it, we are earth-bodies: material expressions of the earth’s vitality. We are earth-bodies like all of our cohabitants of the past, present, and future. We know this power on a large anthropocentric scale because the climate is changing and the global changes that flow in its wake are impacting the bodies that have been denied the agency to compose relations and have been made subject to the relations composed by others through objectification. For the people who have been forced to

⁵⁸ Ruether, *New Woman, New Earth*, 202.

know their boundedness, this is no surprise. As Melanie Harris points out, this boundedness symbolizes its own relational history including people who have been “forced to work the land.”⁵⁹ The relationship particular people experience to the earth is shaped by a history that includes colonization, slavery, industrialization, and neo-colonialism in the form of globalization and so the boundedness of people to the earth, while sacred, takes on different meaning for different peoples.

One of the major successes of ecofeminism is that it is a global movement and has been shaped by Westerners and non-Westerners alike to combat global issues surrounding globalization and colonialism. While not always successful in their endeavors, ecofeminists have strived to expand beyond the comparison between the oppression of women and the earth to include other forms of oppression such as racism in order to illuminate the systemic web of oppression. As Carol Adams and Lori Gruen explain in *Ecofeminism: Feminist Intersections with Other Animals and the Earth*: “Ecofeminism addresses the various ways that sexism, heteronormativity, racism, colonialism, and ableism are informed by and support speciesism and how analyzing the ways these forces intersect can produce less violent, more just practices.”⁶⁰ Thus, the critical aspect of ecofeminism is that a shared power structure is identified as the oppressive force for all beings suffering under patriarchal oppression. Further, ecofeminism conjoins principles of feminism and ecology in order to critique the patriarchal power structure, making it an ideal tool for critique and reconstruction in the wake of global change.

⁵⁹ Melanie Harris, *Ecowomanism: African American Women and Earth-Honoring Faiths* (Ossining, NY: Orbis, 2017), Kindle 753.

⁶⁰ Carol Adams and Lori Gruen, *Ecofeminism: Feminist Intersections with Other Animals and the Earth* (New York, NY: Bloomsbury Academic, 2014), 1.

The Dangers of Building on a Shaky Foundation

One challenge that exists within ecofeminism as a discourse is that it grew out of and in relation to the patriarchal constructs that put women and the environment on the bottom of binaries dominated by men and culture. To identify women as a subjugated group is to perpetuate the binary structure but is also a necessary step in the direction of liberation. To establish new language that does not reflect the binary is a struggle. When we unname a thing we know it in a new way, but as LaDuke argues, the process of naming can also be sacred; a mark of relationality is to have a name. To erase difference within an unchanging system can be just as dangerous as naming difference. Without a new ontology, ecofeminists have been working within the system and language of the master, examining the master's tools in order to dismantle the house and create anew with the available material. However, the harmful ontological foundations of the systems and structures of oppression bleed into the ethical implications and so a new ontology is necessary. As Audre Lorde reminds us, we cannot dismantle the master's house with the master's tools.⁶¹ After identifying the master's tools above, I will now look to the ways ecofeminism, especially in conversation with Gaia theory, is at risk of utilizing the master's tools in the process of reconstruction.

As a discourse well-suited for piecing together the many components that have led to global change, ecofeminism has been making a comeback in recent years. However, there is tension within the discourse that has led many people to discredit ecofeminist positions. In order to argue that ecofeminism is a vital resource in the struggle against the impending global change crisis facing humanity, I will first address two major points of tension: the essentialization of women with the earth and the universalization of claims about women in relation to the earth.

⁶¹ Lorde, *Sister Outsider*, 123.

Avoiding Bifurcations

One of the major criticisms ecofeminists are charged with is that ecofeminism is an essentialist discourse and requires a portrayal and definition of women in deep connection with the earth in comparison to men, which repeats the offense of bifurcation. The relationship that women and the earth share most deeply is oppression, in a multiplicity of ways, which occurs under patriarchal domination. So, while women are not essentially in deeper relationship with nature, in a Western conception of the world they do share a position with nature on the bottom of a binary schema that plays a role in shaping and composing relationships and experiences.

While many ecofeminists deny the essentialism of women and the earth, others recognize that, due to the constructs of gender at work in the organization of societies, women are often conditionally closer to nature than men. Some, such as Shiva, do attribute an essential characteristic to the feminine that holds the feminine in different relationship to nature than the masculine. This is reflected in Hindu metaphysics in which the female principle is aligned with Prakriti, which is the material energy out of which all things are composed; the male principle is aligned with Purusha, which is the consciousness of being. Shiva says in *Staying Alive: Women, Ecology and Development*, that “[t]he feminine principle becomes an oppositional category of non-violent ways of conceiving the world, and of acting in it to sustain all life by maintaining the interconnectedness and diversity of nature.”⁶² The feminine here is portrayed as being essentially related to the rhythms and harmony of nature, reflecting the organic mother-earth model that was part of past Western conceptions of the earth. Even though some ecofeminists share in Shiva’s

⁶² Vandana Shiva, *Staying Alive: Women, Ecology, and Development* (New York, NY: South End Press, 2012), 14.

essentialization of the female with nature based on their experiences and worldview, this assertion is not a necessary aspect of ecofeminism.

Gaia comes with an historical association to the feminine that must be addressed, lest Gaia lead back to the bifurcated roots that essentialize women and nature. In “The Gaia Hypothesis and Ecofeminism: Culture, Reason, and Symbiosis,” Serena Anderlini-D’Onofrio identifies symbiotic reason as one of the transformative methods of thought that grows, symbiotically, out of ecofeminism and Gaia theory. Attributing consciousness to Gaia, a characteristic that Lovelock and other Gaia theorists strictly deny, Anderlini-D’Onofrio argues that symbiotic reason is the assertion that the primary mode of relation between material beings is symbiosis rather than isolation. Anderlini-D’Onofrio argues that symbiotic reasoning emerged from ecofeminism because symbiosis is experientially feminine, because only females experience pregnancy.⁶³ In order to avoid further essentialization of women with nature I would argue that symbiotic reasoning emerges from ecofeminism because it is an acknowledgement of the inherent relationality of beings recognized by ecofeminists. An example that transcends gendered boundaries is the way that the inner gut of humans is impacted by the soil that the food one eats was grown in.

While my first urge is to refute Anderlini-D’Onofrio’s feminine-positive reading of Gaia and ecofeminism, I recognize that in order to emerge from our historical context we do need to acknowledge that, while not reflecting material essentialism, these bifurcated constructs shaped the realities material bodies were manifest within. On one hand, empowering women perpetuates a binary; on the other hand, to fail to recognize the ways in which women ought to be

⁶³ Serena Anderlini-D’Onofrio, “The Gaia Hypothesis and Ecofeminism: Culture, Reason, and Symbiosis,” *disClosure: A Journal of Social Theory* 13.6 (Spring 2004): 65, <https://doi.org/10.13023/disclosure.13.06>.

empowered is to do a historical disservice. Holding onto the name “Gaia” for the complex earth system provides ancient feminist roots, but gendering Gaia as female proves to be problematic.

While ecofeminists do not necessarily argue that women are closer to the earth, they do acknowledge that in many cases women work more closely with their surrounding environment and may have developed knowledge and understanding of their ecosystems in a way that others in their society have not. Talking about women as being in deeper relation to the earth is both helpful and necessary in cases where women are working in more direct contact with other earthly bodies or when the identity of women is shaped by reproductive capabilities rather than the overall agency of the body. However, I do not believe women to be in a deeper relation to the earth *essentially*; rather, it is often, but not always, a fact of circumstance.

That humans are inextricably related to the earth regardless of gender and place is an ontological truth. All living beings have a deep connection to one another and the earth because within Gaia all living things of the past, present, and future are parts of an organic system. The necessary relationship between women and earth is no more intricate than that of any other being. Thus, I reject the essentialism of some ecofeminists on the grounds that interdependence with the earth is an essential characteristic of being in general and not of being woman in particular. However, the recognition of the essentialism of women with the earth that has been present in Western paradigms is necessary to dismantle the patriarchal nature of societal structures. The constructs of gender and nature have operated to elevate man within the forces of Western society. Further, many marginalized women are conditionally closer to the earth while white women of high socio-economic status have historically been shielded from nature. Any way you slice it, white men rise above to power over nature while others remain incapable of addressing nature or in pure identification with it as something to be used and ruled over. The

feminization of Gaia is problematic because Gaia is no nurturing earth-mother, but rather a collection of transforming bodies. If one is to render Gaia “she” or attribute femininity to Gaia’s characteristics a disservice is done both to Gaia and to the historic category of women who were oppressed in conjunction to our identification with nature.

Consecration to Universalization

A second accusation charged against ecofeminism is that it is a homogenizing discourse that simplifies the complex power dynamics between bodies, thus repeating the mistake of universalization of Western epistemologies. It is true that some ecofeminist work has portrayed a homogenized conception of suffering women; however, it is also true that according to an ecofeminist epistemology those mistakes must be corrected. In a critique of Western sciences, Iyona Gebara states that “the very epistemology that reveals evil and denounces it can also produce it by obscuring certain aspects of human reality. It can thus generate exclusionary processes that themselves generate evil.”⁶⁴ Gebara’s claim is applicable to ecofeminism and feminism in general; at the same time that ecofeminism reveals and denounces the evil of a system it can also perpetuate new forms of evil. Thus, it is vital to ecofeminist engagement that one always look to her own work with a critical eye in an effort to identify the remnants of evil and be open to the criticism of others.

As a global movement, ecofeminism represents diverse experiences and contexts but I am in agreement with Lois Ann Lorentzan and Heather Eaton, in *Ecofeminism and Globalization*, that the shape of ecofeminism is formed by context so it may not appear the same in all places

⁶⁴ Iyona Gebara, *Out of the Depths: Women’s Experience of Evil and Salvation* (Minneapolis, MN: Fortress Press, 2002), Kindle 869.

and may not be applicable to all contexts.⁶⁵ While a strength of ecofeminist discourse is the intersectional lens it requires in analysis of the diversity of oppression that occurs under patriarchal rule, it should not be assumed that in all places and cases the cultural norm is for women and the earth to be placed on the bottoms of binary schema. I agree with Lorentzen and Eaton that ecofeminism is not universally useful in the same ways, but it is particularly useful in understanding the context that gave rise to global change because Western domination was a driving force in the manifestation of climate change and globalization. As a global force, the dismantling of Western domination is required for the liberation and adaptation of all beings.

In *Gaia and God*, Ruether recognizes that we cannot simply replace “a male transcendent deity with an immanent female one” because even though it may result in sharper ecological attunement, it does not solve all of the problems posed by the question of God.⁶⁶ However, Ruether seeks a Gaia as a living system that is also hospitable to Christian theology.⁶⁷ While maintaining a distance between Gaia, the ancient earth Goddess, and Gaia theory, she does seek to reconcile the planetary system with Christian-based theology and does so by nodding to the matrix of life as “Mother” and consecrating Gaia as the immanent divine in a move towards panentheism.⁶⁸ This proves problematic because the thea-fication of Gaia is still a consecration of Gaia which strains commitments to situated epistemologies. Further, consecrating Gaia tips the scales in favor of the whole over the parts when there is not necessarily tension between the two since they are one and the same according to Gaia’s being.

⁶⁵ Heather Eaton and Lois Ann Lorentzen, ed., *Ecofeminism and Globalization: Exploring Culture, Context, and Religion* (Lanham, MD: Rowman & Littlefield Publishers, 2003), 61.

⁶⁶ Ruether, *Gaia and God*, 4.

⁶⁷ Ruether, *Gaia and God*, 240.

⁶⁸ Ruether, *Gaia and God*, 253-254.

In *Consecrating Science*, Lisa Sideris warns of consecrating science because it is a practice of imperfect practitioners and so there are dangers to creating a universalized mythology based on science because there are no values implicit in science and, as I argued in the introduction, it is not a generally a source of moral motivation.⁶⁹ While a move toward an ecological ontology is the right move, a move toward a new deified, unified figurehead harkens back to issues with the western paradigm that lead to a universalized epistemology—one way of knowing and therefore experiencing the sacred world. I applaud Sideris' push towards un-naming in the pursuit of religious experience, or wonder, unjaded by the universalization of a singular being that constitutes the universe or consecration of science.⁷⁰ However, I do think the construction of new ontological and moral frameworks are necessary partners in the experience of wonder because it was a misunderstanding of our earthly context that led to climate change.

In order to avoid the pitfalls of consecrating science and creating Baconian priests out of Lovelock and Margulis, I will argue in the following chapter that Gaia is not a God or Goddess. Creating a singular narrative for the many beings that comprise the earth is problematic because it requires a universalized epistemology—one way of knowing and therefore relating to the world—so Gaia must shed ontological connections with a deity and should be considered one way of knowing rather than the way of knowing the world. However, as I will argue in the following chapter, this does not mean that religious experiences, or what Sideris deems wonder, do not occur and cannot inform one's understanding of the world. Religious experience in Gaia plays an important role of decentering and leveling one's orientation toward other beings.

⁶⁹ Lisa Sideris, *Consecrating Science: Wonder, Knowledge, and the Natural World* (Berkeley, CA: University of California Press, 2017), 114.

⁷⁰ Sideris, *Consecrating Science*, 169-202.

Shifting Hierarchies

The earth has been dominated via the embodiment of a patriarchal worldview by Western peoples in order to demonstrate that, as parts of Gaia's body, this domination has had negative impacts on the humans on top of the hierarchy, as well. Ecofeminism allows me to integrate the systems approach of ecology with social contexts in an analysis of environmental history that illuminates the problematic paradigm of Western domination for all parties involved. Thus, the solution to the problem of conflicting interests between the individual and the whole is to ask new questions about how they are related and how they might interact differently to improve the system for all; this is where ecological concepts like symbiosis and holarchy will be valuable. Rather than assuming conflict between the individual and the whole—a survival of the fittest approach—I will assume a relation of symbiosis which can be mutually beneficial, mutually harmful, or one sided, but is inherently relational. Ecofeminism illuminates the social-historical context of climate change and through ecofeminism I will insist on the pursuit of justice in the formation of climate change responses.

Like me, Merchant looked to Lovelock's Gaia theory with hope as a model for the future because it is based in science and reflects the complexity and relationality of the earth system in a way that the mechanistic model, which is what we currently operate on, does not. However, Merchant immediately refers to Gaia as "the ancient Earth Mother" and ends the 1990 preface with a nod to hope that humans can heal Gaia.⁷¹ Merchant expands her consideration of Gaia a few years later in *Earthcare: Women and the Environment*, recognizing that the pairing of Gaia as Goddess and Gaia as scientific theory is problematic because the Gaia of the theory is indifferent to notions of justice whereas Gaia as Goddess has been understood as a nurturing

⁷¹ Merchant, *The Death of Nature*, xv-xviii.

mother. Identifying the earth as a nurturing mother perpetuates an understanding of women as primary caretakers—mommy Gaia will clean up our mess.⁷² Instead, Merchant proposes “partnership ethics” with an aim to heal the earth. While a move in the right direction, her partnership ethics maintains a distinction between the human and biotic communities rather than seeing humans as a part of the biotic community based on the assumption that humans have the “upper hand” as a result of developed technologies.⁷³ Merchant is moving in the right direction by shifting humans off the pedestal and down towards a partnership. However, while humans hold agency along with other particular material manifestations, we are in no way partners with Gaia. If there are partners of Gaia, they are surely microbial foundations of life.

The Individual and the Whole

This tension persists with the consecration of Gaia because a deified whole must inevitably win out over the individual; if Gaia is God then the parts must bow down to the whole. Ruether’s Gaia is one in which the depth of interdependence is a two-way street—if one party conquers another it essentially conquers itself due to the loss of the one on which it was dependent, a problem to which love is a solution.⁷⁴ Ruether is right to argue that Western ethics ought to be more about limitations than freedoms: “In this sense, ‘good’ lies in limits, a balancing of our own drive for life with the life drives of all others in which we are in community, so that the whole remains in life-sustaining harmony.”⁷⁵ However, just as Gaia does not yield to the laws of reason, Gaia does not yield to the laws of love and harmony; species do

⁷² Carolyn Merchant, *Earthcare: Women and the Environment* (New York, NY: Routledge, 1995), 4-5.

⁷³ Merchant, *Earthcare*, 216-218.

⁷⁴ Ruether, *Gaia and God*, 56.

⁷⁵ Ruether, *Gaia and God*, 256.

outrun their niche at the cost of other species and Gaia persists precisely because of disequilibrium rather than harmony. Ecofeminists move humans towards a unilateral relationship with other beings and the earth, but do not dispel the tension that persists between humans as a collective and the rest of the earth or individual beings in relation to the whole.

As Grace Kao argues in “The Universal Versus the Particular in Ecofeminist Ethics,” many issues within ecofeminism stem from a perceived and experienced tension between the moral significance of the individual and the whole.⁷⁶ This remains problematic because humans are maintained as a separate category: particulars acting in relationship to universalized categories—humans to nature as illustrated by Merchant’s conception of a partnership ethic—rather than considered as agents composed by agents in the process of composing other agents. The holarchic conception of being in Gaia is transitive so conceptions of isolated individuals do not fit; there is not necessarily tension between one body and another, though that tension can certainly be created. Sideris argues that if people are to really embrace new models of the universe, especially those which recognize the agency of the earth, then we must accept that we are not privileged co-creators but rather mere agents amongst a multitude of others.⁷⁷

Taking cues from ecological relations, ecofeminists recognize that one of the missteps of Western ethics is a focus on the isolated individual. Gebara argues that part of being human is to be part of collectives; thus, relationality is a key component of being human. More than just a characteristic of being human, relationality constitutes being in all of its many forms throughout the cosmos; thus, relatedness is the “primary reality.”⁷⁸ Gebara points to relatedness as a human,

⁷⁶ Grace Kao, “The Universal versus the Particular in Ecofeminist Ethics,” *The Journal of Religious Ethics* 38.4 (2010).

⁷⁷ Sideris, *Consecrating Science*, 141-145.

⁷⁸ Gebara, *Longing for Running Water*, 83.

earthly, and cosmic condition as well as an ethical reality and a religious experience. She argues that starting with relationality as an aspect of the human condition acknowledges humans as beings in communion with other beings rather than as the isolated center of all being.⁷⁹ Being constituted by relationality is a characteristic shared not only amongst humans, but amongst all beings that constitute and are constituted by the earth, binding beings together in a sacred material, rather than ethereal, connection to the point of experiencing religious union with the whole of being. The sacred relatedness that constitutes reality is the bedrock of ethics, as Gebara says: “social life makes ethical demands.”⁸⁰ With the recognition of social ties that go beyond the human community, the realm of ethics can be recognized beyond the limits of the human community and within the relationships humans constitute and are constituted by with other earthly beings. There is no need for appeal to higher principles because morality is a part of the material relationships that constitute human reality.⁸¹ By locating relatedness, and therefore ethics, within material reality, Gebara offers the groundwork for a movement that holds together history with hope for transformation of earthly relationships into the future.

Ecofeminism Going Forward

Despite the risks that ecofeminism poses, it remains an essential discourse in the development of ethics in response to climate change. If ecofeminism is to be aligned with Gaia theory, the connections to Gaia as earth mother Goddess must be shed. As we shall see in the following chapter, Gaia is a disruptor and calls for change. However, Gaia is indifferent to the injustices that flow in the wake of climate change which is why ecofeminism continues to be a

⁷⁹ Gebara, *Longing for Running Water*, 85.

⁸⁰ Gebara, *Longing for Running Water*, 90.

⁸¹ Gebara, *Longing for Running Water*, 90.

crucial discourse in the formation of moral frameworks. Gaia does not care that the people who have contributed the most to global change are the most protected, or that rising sea levels will wipe out homes of both humans and other beings. As a discourse at the intersections of sciences and morality, ecofeminist ethics requires that moral frameworks be centered on justice to the inverse of the unjust history that brought climate change about.

While much of ecofeminist work has been on the project of deconstruction, it offers a wealth of discourse on visions for the future. An intersectional lens is important for filtering through the historical context that has given rise to climate change because while white women have suffered oppression as a result of their identity, the oppression of white, middle-class, heterosexual Americans is quite different than that of women with different identity markers. Humans do not arise as moral beings in a vacuum; we arise from histories that occurred even before we materialized. Thus, when addressing environmental issues such as overpopulation we must pay heed to context; to say that overconsuming Americans must take responsibility for overpopulation by having fewer biological children is different than saying that we collectively as a species must take responsibility. To tout overpopulation as a universal global issue erases the history of reproductive oppression many have experienced and neglects the root of the issue, which is overconsumption.

White middle-upper class Westerners must bear the burden of responsibility in response to climate change because this is the population which has contributed to and benefited most from global change. Additionally, this is the population most able to respond. As a woman, I am well practiced in the act of shrinking and as a feminist I am aware of the complex power dynamics that make this call to “shrink” highly problematic. However, the constraints of the earth require that those who have been living large shrink back. As Ruether argues in *New*

Woman/New Earth: “Women must see that there can be no liberation for them and no solution to the ecological crisis within a society whose fundamental model of relationships continues to be one of domination.”⁸² Rather than shrinking in response to repressive forces, however, this shrinking is a subversion that opposes the patriarchal powers and cultures that have grown beyond the earth’s capacity.

While the art of shrinking has historically been a survival tactic of the oppressed, it is also a biological response to a warming climate and a necessary tool of adaptation and resilience. Shrinking—taking up less space and resources—will be required by Western peoples if we are to respond to the call echoed by Ruether to “a radical reshaping of the basic socioeconomic relations and the underlying values of the [modern industrial] society.”⁸³ Those of us in the West living beyond our share of the earth’s capacity must learn how to use and live with less to make space for our earth co-habitants and earth processes. In order to do so, we need new moral frameworks and ecofeminism’s contributions in this realm are invaluable. In order to move forward, we need to leave the master’s tools behind.

In addition to risking a problematic paradigm, the thea-fication of Gaia in connection to the theory is problematic because of its incongruences with Gaia theory which is inherently materialist and does not fit into constructed bifurcations, as Gaian scientists Margulis and Sagan point out:

Gaia is not the nurturing mother or fertility doll of the human race. Rather, human beings, in spite of our raging anthropocentrism, are relegated to a tiny and unessential part of the Gaian system. People, like brontosauruses and grassland, are merely one of the many weedy components of an enormous living system dominated by microbes.⁸⁴

⁸² Ruether, *New Woman, New Earth*, 204.

⁸³ Ruether, *New Woman, New Earth*, 204.

⁸⁴ Lynn Margulis and Dorian Sagan, *Dazzle Gradually: Reflections on the Nature of Nature* (White River Junction, VT: Chelsea Green Publishing, 2007), 183.

The reason Gaia is considered to be such an intrusive force,⁸⁵ and Isabelle Stengers deems them, is that Gaia does not fit into problematic Western ontologies characterized by bifurcation, universalization, hierarchies, or isolated individualism. Far from acting as Gaia's partner, humans are parts of Gaia that are far more dependent on the earth-system than the earth-system is on us. In the next chapter, I will explore what Gaia is in relation to Gaia theory if not a Goddess, mother, or partner.

⁸⁵ Isabelle Stengers, *In Catastrophic Times: Resisting the Coming Barbarism*, trans. Andrew Goffey (London, England: Open Humanities Press, 2015), 43-44.

Chapter 2: Gaia

Gaia, a tough bitch, is not at all threatened by humans.

-Lynn Margulis, Symbiotic Planet

The deep roots Gaia has as a patriarchal crushing earth-goddess drew ecofeminists in, but opened Gaia theory, and the scientists who proposed it, to ridicule from the broader scientific community. In Chapter 2, I will explore Gaia theory as presented by Lovelock, Margulis, and others as a scientific theory with religious connotations but void of the attribution of consciousness, animism, or a moving spirit. First, I will provide an overview of Gaia as a scientific theory, including the ways that Gaia's body is impacted by climate change. Next, I will explain the ways that my discovery of Gaia theory gave new shape and meaning to experience in order to demonstrate my final argument that, as a science, Gaia theory has broader implications as a source of materialist religious inspiration and begs for a new materialist ontology.

Sources from systems ecology will help me to build the wider framework for the argument being made by Gaian scientists and provide broader methods for understanding the ecosystem(s) of which humans are a part. The major sources I will draw from for Gaian science are James Lovelock, Lynn Margulis, Dorian Sagan, Elisabet Sahtouris and Stephen Harding. However, Gaian science reveals more than a mere interdependence and relationship; it reveals a continuity of being within a constantly transforming living entity which has implications for humans as members of Gaia's body. As such, I will converse with other Gaian thinkers outside the sciences, including Mary Midgley and Bruno Latour. Like me, Midgley and Latour have found something in Gaia theory that was not present in other scientific perspectives because Gaia appeals to a holistic worldview to those working outside the sciences. Climate change does not

fit the traditional Western paradigm and neither does Gaia, but both are catapulting us into possible futures.

Gaia Theory

Lovelock began to pursue his intuition that the earth is a living entity while working on a project for NASA that aimed to discern whether or not there was life on Mars. By measuring the components of the atmosphere on other planets and comparing them to the earth's atmosphere, Lovelock discovered that in order for life to exist on a planet the atmosphere cannot be stable. Life cannot exist when levels of substances such as carbon dioxide are at equilibrium; on earth carbon dioxide levels are around 0.03%, whereas on planets without life the percentage of carbon dioxide is in the upper 90's. Oxygen levels on planets without life fall below 0.2% while the earth's atmosphere is composed of 21% oxygen.⁸⁶ In other words, the presence of life alters the atmosphere of a planet so drastically that one can rule out the possibility of life on a planet if the planet's atmosphere is at equilibrium.

Life requires, perpetuates, and flourishes with a certain level of disorder so a planet with an atmosphere at equilibrium suggests that no life is present. For Lovelock, this discovery was the first affirmation of an intuition that the earth and life it harbors evolve together. Earth did not simply have the proper conditions for life to emerge, though as a planet it is in the "Goldilocks Zone" meaning that the elements and conditions for the possibility for life to emerge were present. Rather, as life emerged it altered the earth's atmosphere; the development of life created conditions for life to flourish as we know it today.

⁸⁶ James Lovelock, *Gaia: A New Look at Life on Earth* (Oxford, England: Oxford University Press, 2000), 36.

Lovelock provides the scientific reasoning that supports Gaia theory, including the relational aspects that suggest the living earth is a cybernetic system. Since cybernetic systems are evidence of life this supports the position of Lovelock and Margulis that the earth, while not necessarily an organism, is a living system. Lovelock compares the contemporary atmosphere to what the atmosphere should be without regulation by the presence of life on earth, which further supports his claim that the earth, and the life it holds, is a self-regulating creature: “We shall see if the Gaia hypothesis accounts for the strange composition of our atmosphere, with its proposition that the biosphere actively maintains and controls the composition of the air around us, so as to provide an optimum environment for terrestrial life.”⁸⁷ He discovered that life is indeed self-regulating and responsive, thus the whole system of life is living.

Upon having his intuitions affirmed by the discovery that life alters the atmosphere, Lovelock prodded further into his suspicion that life and the earth as we now experience it evolved together and that the earth functions as a living system. Lovelock’s original hypothesis was “that the entire range of living matter on Earth, from whales to viruses, and from oaks to algae, could be regarded as constituting a single living entity, capable of manipulating the Earth’s atmosphere to suit its overall needs and endowed with faculties and powers far beyond those of its constituent parts.”⁸⁸ He developed this theory with a view from an outside planetary perspective looking in, but it was furthered by the work of Lynn Margulis, a biologist whose cutting-edge work on microbiomes and symbiosis confirmed the theory from the ground outward.

⁸⁷ Lovelock, *Gaia*, 62-64.

⁸⁸ Lovelock, *Gaia*, 9.

Margulis' biggest contribution to the development of Gaia theory was positing symbiotic relations as the driving force of evolution, arguing that: "Sensitivity, awareness, and responses of plants, protocists, fungi, bacteria, and animals, each in its local environment, constitute the repeating pattern that ultimately underlies global sensitivity and the response of Gaia 'herself.'"⁸⁹ Thus, much like the human body, Gaia's body is made up of other bodies that function together in symbiotic relationships with the material earth.

Margulis defines Gaia as "an emergent property of interaction among organisms, the spherical planet on which they reside, and an energy source, the sun."⁹⁰ The theory that the earth is one giant living entity working to keep itself alive and keep earth at an imbalance that is fit for life, put forth by Lovelock in collaboration with Margulis, has deeply influenced my perspective. The level of cooperation between forms and living bodies that it takes to make the planet fit for life is awe-inspiring, and the fact that life evolved in a way to ensure the extended continuation of life is even more incredible. Whether or not the earth is a living creature it is certainly one whole system that works together. Given that the climate is impacted immensely by human action it is clear to me that humans are not functioning as contributing members of the Gaian system. Rather, many of us are leeching resources and space from the system like an invasive species, embodying parasitic relationships with other forms of life.

While not necessarily implying cooperation, Margulis explains the symbiotic nature of life as: "...the system in which members of different species live in physical contact... We are symbionts on a symbiotic planet, and if we care to, we can find symbiosis everywhere. Physical

⁸⁹ Lynn Margulis, *Symbiotic Planet: A New Look at Evolution* (New York, NY: Basic Books, 1998), 126.

⁹⁰ Margulis, *Symbiotic Planet*, 119.

contact is a nonnegotiable requisite for many differing kinds of life.”⁹¹ Symbiotic relationships take on a multiplicity of forms and take place amongst complex networks of relationships; they vary between mutualism, cooperation resulting in mutual flourishing, and parasitism, in which one member benefits and the other is harmed.

The symbiotic relationship that has developed between the Egyptian Plover bird and the crocodile is a mutualistic one because as the plover cleans out the crocodile’s teeth it consumes the findings; the crocodile’s mouth stays free from infection and the plover eats. Parasitism, on the other hand, benefits only one member of the relationship: the *Glyptapanteles* wasp lays eggs inside the living body of a caterpillar. Upon birth, the larvae consume the caterpillar from the inside out, controlling the mind of the caterpillar so it protects them as they mature until they emerge from their cocoons and fly away, abandoning the starved body of the caterpillar. A characteristic of symbionts is the ability for the nature of relationships to change. Wolves started following humans to eat the leftover carcasses and food from hunting and gathering endeavors, so the relationship first reflected commensalism wherein only one member of the relationship benefits and consequences are neutral for the other. Eventually, the relationship transformed into a mutualistic one in which both parties benefited, and humans and dogs evolved closely together forming a strong bond between the species. In relation to Gaia, Western humans currently reflect a parasitic symbiotic relationship in which one body benefits from the suffering of the other. Hope lies in our ability to transform our relationship with Gaia into a mutualistic one.

Margulis utilizes the language of body to explain Gaia; she says, “Yet the Earth, in the biological sense, has a body sustained by complex physiological processes. Life is a planetary-

⁹¹ Margulis, *Symbiotic Planet*, 5.

level phenomenon and Earth's surface has been alive for at least 3,000 million years."⁹² Margulis points to the presence of a boundary—delineating the internal from the external—in order to identify and define the body of Gaia, pointing to the “anomalous atmosphere” as the boundary of Gaia's body. Like a human body, Gaia also maintains a relatively steady temperature, called homeostasis, despite the warming sun which would have warmed the earth's surface over time had life not emerged and evolved here.⁹³ While not attributing a forward-thinking consciousness to Gaia, Margulis argues that Gaia possesses proprioception, which is a level of self-awareness, through the many living, perceiving, and aware systems in her body. Through this ability to sense their⁹⁴ own bodies and respond to external stimulants, Gaia is able to generate internal responses in an organized and patterned manner.

All organisms in an ecosystem are either consumed by other organisms at higher trophic levels or enter the pool of dead organic matter, or detritus. In most terrestrial ecosystems, only a relatively small proportion of the biomass is consumed, and most of the energy flow passes through detritus. Because most of this energy flow occurs in the soil, we are not always aware of its magnitude and importance. Gaian science reveals that all life and earthly materials are part of one dynamic system: a system that hangs in balance by particular manifestations with unique and necessary functions toward the preservation of the whole—neither the part nor the whole could persist without the other.

Gaia's body is shaped by boundaries but characterized by encompassment rather than division, like a set of nesting dolls a body encompasses and is encompassed by other bodies.

⁹² Margulis, *Symbiotic Planet*, 115.

⁹³ Margulis, *Symbiotic Planet*, 117.

⁹⁴ I refer to Gaia in the plural both as a solution to the problem of implying a feminized conception of the earth system and to honor the multiplicity of agents that compose Gaia's body.

Thus, definitions and understandings of “self” can never be separated from the other selves which the self contains and composes. More complex than the nesting dolls, however, Gaia’s body includes complex systems in addition to singular bodies bounded by flesh or bark. Gaia’s body is the source of and breeding grounds for all life while, at the same time, life itself regulates the conditions of the Gaian body to be fit for life. Gaia sustains and is sustained by an interdependence far deeper than sociality and trophic cycles.

With the help of Margulis, Lovelock made clear that this body of life does not constitute an organism because it does not eat or produce waste. Margulis articulate that instead of consuming and producing waste, “the Gaian system recycles matter on the global level.”⁹⁵ Margulis also aided Lovelock responding to critics accusing Lovelock of assigning a teleology to Gaia. In order to be accepted in the scientific community, Gaia was developed into a less imaginative scientific theory than Lovelock originally proposed but the theory remained on the fringes of acceptance. In his introduction to Elisabet Sahtouris’ book, Lovelock explains Gaia: “This theory sees the evolution of the material environment and the evolution of organisms as tightly coupled into a single and indivisible process or domain. Gaia, with its capacity for homeostasis, is an emergent property of this domain.”⁹⁶ While it depends on the way “organism” is defined, both Lovelock and Margulis are comfortable to say that Gaia is the earth as a living entity. In opposition to Margulis and Lovelock, biologist Tyler Volk, who worked with Lovelock, does not hesitate to designate Gaia as a “self-regulating superorganism.”⁹⁷ Yet Volk treats Gaia more as a “hypothesis generator” than a theory—a driving force, or central ground,

⁹⁵ Margulis, *Symbiotic Planet*, 119.

⁹⁶ Elisabet Sahtouris, *EarthDance: Living Systems in Evolution* (Santa Barbara, CA: Metalog Books, 1996), Kindle 172-174.

⁹⁷ Tyler Volk, *Gaia’s Body: Towards a Physiology of Earth* (Cambridge, MA: MIT Press, 1998), 26.

from which to create other scientific hypotheses. Volk considers Gaia to be the whole of a complex system of holarchies—a living body constituted by living systems within.⁹⁸

The false separation between the single unit and the whole is problematic for a Gaian worldview because Gaia functions as a whole system that is comprised by a multitude of “individual” bodies each playing a role in keeping Gaia, and thereby all of the components, alive. Lovelock’s hypothesis that every single living entity composes and is composed by Gaia requires a conception of the individual and the whole as embedded in one another;⁹⁹ in this Gaian perspective, a whale and an oak are no more separate entities than the heart and the lungs of a singular human body.

Ecology involves studying the way that an organism or aspect of matter interacts with its larger surroundings, which helps us as human beings discern our role as living beings within the earth. As an inherently relational discipline, ecology reveals the way that material bodies influence and are influenced by each other. The level of cooperation between forms and bodies of life that it takes to make the planet fit for life offers clues as to how humans might better live amongst this earth. As an autopoietic entity, life evolved in a way that leads to the extended continuation of life—largely through symbiotic relationships. According to Lovelock’s theory, each organism plays a role within the larger life of Gaia. While Gaia may not will to survive, the organisms within Gaia play a part in Gaia’s survival. As William Golding puts it:

no life process can be understood in terms of the information with which it has been programmed, for it is under the control of the larger systems of which it is part, that provide it with the environment with which it is constantly interacting, and from which it derives much of the information required for its development.¹⁰⁰

⁹⁸ Volk, *Gaia’s Body*, 32-33.

⁹⁹ Lovelock, *Gaia*, 9.

¹⁰⁰ Edward Goldsmith, *The Way: An Ecological Worldview* (Athens, GA: University of Georgia Press, 1992), 31.

Essentially, all bodies are earth-bodies and Gaia, as earth, is all bodies.

Gaia Gets a Fever

If Gaia constitutes a body, then climate change can be compared to a fever caused by the virus-like humans wreaking havoc on her inner systems. In order to appropriately respond to threats of climate change we must know who and what is echoing the call to action that we experience through rising temperatures and more intense weather patterns. We have to understand the body that our own bodies compose and are composed by. Gaia is a living entity equipped with her own mechanisms of response and not a mechanical sphere floating through space. Thus, any response must be dynamic and rooted in an ecological, materialist ontology; we cannot begin to develop new ways of living without first understanding what Gaia is, and when we do develop new ways of being a part of Gaia they must come from a place deeper than surface-level actions. Gaia theory is the material context to agential relations and imbalances of power. As such, Gaia theory reveals a lot about what humans are and what we have the potential to become as members of the earth system.

Gaia does not adhere to the neat and orderly mathematical scheme that the Western sciences have attempted to understand them through.¹⁰¹ As a result, any and all predictions about the impact of climate change are liminal. While Lovelock once held steadfast to the predictions of Gaian climate calculations, more recently he has suggested that even his own predictions are

¹⁰¹ James Lovelock, *The Ages of Gaia: A Biography of Our Living Earth* (New York, NY: W.W. Norton and Company, 1995), 50.

flawed.¹⁰² So, while Gaia theory and the work of Lovelock have contributed much to climate change related science, one of the implications of that science is that the calculations are trivial at best since the Gaian system is always changing and adapting to the flux of events within and outside of Gaia's body. Like the human body, Gaia negotiates between an inner and outer environment and when the body gets a fever the system responds. Climate change is Gaia's response to a rising fever. As Western humans continue to thicken the blanket around Gaia, other aspects of the system are responding to the rise in temperature in ways that cannot be fully anticipated.

People failed to anticipate that Gaia would respond to the changes in climate by changing how the system functions, making predictions more of a hairy business. In reference to climate change, Volk argues: "What is clear is that the biota are strongly responding. We inhabit a vast, mysterious, sensitive system. We know that life is responding to changes in carbon dioxide and climate; in turn, life is affecting carbon dioxide and thus climate."¹⁰³ An example of this is the ancient carbon stored in Alaska's melting permafrost; as the temperature rises the permafrost melts and releases all of the stored greenhouse gases into the atmosphere. When the greenhouse gases are released, they blanket the earth and increase the rapidity of global warming, causing the permafrost to melt even faster. Climate change is not a linear progression, but a cyclic web of causation in the changing relationships amidst a multitude of material agents.

The sea level rise resulting from glacial and permafrost melt is one of the expected consequences of the global temperature rising. However, the greenhouse gas release of

¹⁰² Wynne Parry, "'Gaia' Scientist Takes Back Climate Change Predictions," *Live Science*, last modified April 24, 2012, <https://web.archive.org/web/20190109142656/https://www.livescience.com/19875-gaia-lovelock-climate-change.html>.

¹⁰³ Volk, *Gaia's Body*, 22.

permafrost and glacial melt along with increased carbon productivity of wetlands were not factored into earlier predications or the carbon budgets established in the *Paris Agreement*.¹⁰⁴ Thus, carbon budgets have not taken into account the increased release and emission of carbon from non-human sources catalyzed by anthropogenic climate alterations. The miscalculations about the ecosystem's carbon output, including both human and non-human sources, mean that in order to meet any goals for global reduction humans have to buckle down even further to meet the marks that are already being missed. Humans have not lived through a Gaian fever before, so the only thing that can be known is that we do not know how Gaia as a whole will respond. The increased release of greenhouse gases from permafrost, glacial melt, and wetland production will cause the temperature to continue rising and cause the release of greenhouse gases at exponential rates.

Ecosystem complexity increases the resiliency of the whole biosphere, so while humans cannot destroy the ecosystem, only change it, we can and have caused it to become more fragile.¹⁰⁵ With each major change to the environment, we destroy well-established systems of regulation that have kept the earth as a suitable home for the only life we know to exist in the entire universe. The fragility and persistence of Gaia are entangled together in a complex web that is regulated by the presence of life creating an environment hospitable to human life. As large mammals, humans wane on the side of fragility but as animals that have developed and evolved with the help of complex tools, manipulations of the environment, humans have found ways to persist at the cost of disruption to the stable disequilibrium that is now threatening many

¹⁰⁴ Edward Comyn-Platt, Garry Hayman, Chris Huntingford, et al., "Carbon budgets for 1.5 and 2°C targets lowered by natural wetland and permafrost feedbacks," *Nature: Geoscience* 11 (July 2019): 568-570, <https://doi.org/10.1038/s41561-018-0174-9>.

¹⁰⁵ Lovelock, *The Ages of Gaia*, 52.

life forms. As moral beings and the greatest contributors to Gaia's current temperature rise, humans in industrialized societies must reduce greenhouse gas production at a much greater level than calculations might suggest because we do not know the magnitude of greenhouse gases that will be released from the earth's glaciers and permafrost.

Rolling Stones Magazine has already announced that we are entering into an "Age of Climate Migration" evidenced by the millions of people displaced by anthropogenic climate change related disasters.¹⁰⁶ The number of people displaced by anthropogenic climate change is difficult to quantify because people are displaced by sudden onset climate hazards, slow onset hazards such as desertification, and political unrest that might be linked to a struggle to adapt to a changing environment. Nevertheless, the most common figure projected for predictions about the number of climate refugees by 2050 is 200 million.¹⁰⁷ Further, current and projected rates of extinction suggest that we are on the brink of the earth's sixth mass extinction, an unprecedented human experience. So, while Gaia might be a tough bitch, as Margulis eloquently states, the human species and other collections of beings within Gaia are less so. The issue is not whether or not humans can save the earth—we must do away with the illusion that Gaia is a damsel in distress and Westernized humans are riding to her aid on white horses; the moral challenge is for humans to adapt in ways that are more just than our history reflects us to be, and to widen our understanding of justice to incorporate whole bodies of being, Gaia's bodies, because that is the

¹⁰⁶ Jeff Goodell, "Welcome to the Age of Climate Change Migration," *Rolling Stones*, last modified February 25, 2018, <https://web.archive.org/web/20190109131756/https://www.rollingstone.com/politics/politics-news/welcome-to-the-age-of-climate-migration-202221/>.

¹⁰⁷ Oli Brown, *Climate Change and Forced Migration: Observations, Projections, and Implications*, (Geneva, Switzerland: Human Development Report Office, 2007), 2, accessed January 9, 2019, https://web.archive.org/web/20190109133054/https://www.iisd.org/pdf/2008/climate_forced_migration.pdf.

only way justice is possible. Doing so will require that people come to know and understand what Gaia is and what the implications of Gaia are, which requires both an understanding of Gaia conceptually and encountering Gaia experientially.

Encountering Gaia

The most vivid and earliest memories I have of Gaia involve watching the school of sunfish who lived under the dock swim about for hours while the blood rushed to my head as it hung over the edge of a dock at my grandparent's cabin. The school was located inside an old washing machine tub that had been swallowed up by the lake before I was born—a blend of my world and theirs that demonstrated to me that my world and theirs were not distinct. While I could not see the locus of the school without a major blood rush, the busy little specimens kept me plenty entertained and intrigued as they swam to and fro. During nesting season fathers made their nests around the dock in the sun and acted as fierce guardians of the sunfish I would watch the following summer. Weekend after weekend for about a month I would return, and they would still be there in the same location guarding their eggs. Only when one of my brothers or cousins swam near did they scurry away, but they always returned with haste once the massive foreign forces and bodies settled elsewhere. Gaia and I lost touch as I abandoned much of my youthful wonderment, but only briefly.

I reencountered Gaia a couple decades later while hiking in Big Sur. Moving down the mountainside towards a riverbed with a swarm of small bugs, surrounded by trunks of redwood trees that were rooted far below where I would sleep that night, I found myself to be a part of a living system. I remember thinking of all the wisdom the trees hold as I walked: the sights they have seen, and the loss they have witnessed—specifically that of the California Grizzly—a loss I

was both saddened by and grateful for as I hiked further from human civilization. Despite the constant flux of death and resurrections witnessed by these trees they persevere, offering a testament to the persistence life. It seemed a little silly at the time, less so the more I learn about ecology, but I could only think of these trees as my elders. It was not a thought that I conjured up myself; it was a lesson I learned as the trees spoke to me with their slow silent activity and growth.

In *Animate Earth: Science, Intuition, and Gaia*, Stephen Harding coins the term “Gaia’ed” to explain human encounters with Gaia.¹⁰⁸ I cannot recall the very first time I was “Gaia’ed,” but it seems that I have been beckoning toward Gaia for quite some time, perhaps earlier than I can remember. Hanging my head over the dock, I could see the fish below swim through the image of my face that was reflected back to me by the small, spring-fed Turtle Lake. When I focused on my reflection, it was colored and animated by the movement of the water and the fish below. When I focused on the fish below, they were shadowed by the obstruction of my head in both my perception and their experience, which was evident in their movement away from the light and into my shadow. My first memory of Gaia does not reach back to one particular instant or event from the past, but to a feeling that I can only articulate as sacred connection. I imagine this connection is akin to what the leaves of a squash vine feel as they rise to worship the morning sun—or to be worshiped by it—a mutual ritual of renewal catalyzing growth and transformation.

As articulated by Jewish theologian Martin Buber, sacred encounters have a way of causing transformation as the boundaries between the perceived inner-self and perceived outer-

¹⁰⁸ Stephan Harding, *Animate Earth: Science, Intuition, and Gaia* (Hartford, VT: Chelsea Green Publishing, 2006), 43.

other melt away.¹⁰⁹ However, Buber attributes this connection to God whereas I attribute it to the shared materiality that manifests in agential relationships between bodies. Running out to the end of the dock and hanging my head over the edge was more of a ritual than a habit; I sought out the connection, familiarity, and surprise that always awaited me in the chilly waters that represented both a mysterious glistening and familiar darkness. I had no name or language to articulate this connection, but I felt it nonetheless and it has shaped the way I experience and conceptualize the world. I recognize now that the worldview I held as a child is similar to my current understanding of myself as a part of Gaia's body; however it is now much greater than an intuition or experience and has transformed into the foundation for a worldview that transcends the traditionally constructed boundaries of science and religion.

As a child, I knew Gaia and saw them daily but as I grew, I stopped recognizing them because my experiences of Gaia did not fit the construct of the world that I was taught. Through the constructed separation between culture and nature, Gaia was hidden behind a veil that I had to work to tear down. Re-encountering Gaia for the first time as an adult, because I do believe I knew Gaia as a child but was conditioned to ignore them, is similar to seeing your "self" in the mirror for the first time and recognizing the thing looking back at you as "self." In his encounter with a dying wolf, Leopold exclaims that upon seeing the "green fire in her eyes" go out "there was something new to me in those eyes—something known only to her and to the mountain."¹¹⁰ Harding argues that Leopold was Gaia'ed in this encounter with the wolf,¹¹¹ a moment when a particular body is suddenly realized to be a real thing with significant worth because every aspect of the earth, whether or not it is considered to be alive, participates in the integrative life of Gaia.

¹⁰⁹ Martin Buber, *I and Thou* (New York, NY: Scribner Classics, 2000).

¹¹⁰ Aldo Leopold, *A Sand County Almanac*, (New York, NY: Ballantine Books, 1986), 138.

¹¹¹ Harding, *Animate Earth*, 43.

Demonstrative of the power of a Gaian encounter, Leopold's experience with the dying wolf that was shot by the group of hunters he was a part of caused a paradigm shift in which he ceased from understanding the wolf as a sole competitor for the deer Leopold was hunting to understanding the wolf as a particular being with purpose in relation to the larger context of life and its cycles.¹¹²

When I encountered Gaia as a child with my head hanging over the dock peering down at the fish below I not only did so through my particular eyes, but I did so through my reflection. When one encounters Gaia, one does so through a particular perspective that is reflective of the way one is an extension of Gaia at the same time that Gaia is an extension of oneself. One can only encounter Gaia through one's own perspective, yet the perspective is not one's own because it is shaped by what one perceives. In reference to Leopold's first encounter with Gaia, Harding exclaims "He has recognized the existence of an active agency far greater than himself in the great wild world around him; in the rocks, the air, the birds, the sun, the microbes in the soil and in every speck of matter."¹¹³ Leopold saw past his own reflection and located himself within the larger picture of life and matter.

While I deem these experiences as sacred, they do not always come without a sting. Echoing Thoreau, Leopold proclaims: "...too much safety seems to yield only danger in the long run... In wildness is the salvation of the world."¹¹⁴ Gaia differs from romantic notions of "mother" nature because in Gaia the realities of the relationship between life and death are stark; the power to give life requires death. I recall another early encounter with Gaia as I was walking

¹¹² Leopold, *A Sand County Almanac*, 139-141.

¹¹³ Harding, *Animate Earth*, 43.

¹¹⁴ Leopold, *A Sand County Almanac*, 141.

barefoot and suddenly felt a sting—a bee exerting agency in its last moments of life in the ground under my feet.

When I discovered the Gaia theory of James Lovelock, I discovered the language, science, and worldview that gave meaning to much of my intuition. It was a “meeting again for the first time” kind of experience more than a discovery. I do not believe Gaia is or should be the only filter through which all of humanity should see the world, nor do I argue that Gaia is the only name that ought to be given to the earth-system as a whole. Rather, like philosopher Mary Midgley, I think the power of Gaia theory is that it is both a scientific theory and an awe-inspiring image—an idea that encompasses climate change and causes one to consider themselves as part of a long transitory process of the transformation of matter and energy in the web of life encompassed by the earth.¹¹⁵

Jeffrey Lockwood and William Reiners deem this kind of approach “constrained perspectivism” and, like Haraway’s situated knowledges, include intuition, experience, observation, and traditional science all to be ways of knowing. As Lockwood and Reiners explain:

This position requires that we allow the possibility of multiple truths and that we seek value in different ways of knowing nature, but it also demands that we judge with rigor and discrimination the evidence used to support claims about truth and knowledge. We term this position “constrained perspectivism.”¹¹⁶

Furthermore, constrained perspectivism, much like feminist epistemologies of situated knowledge, requires recognition of the biased knower in sciences which introduces preference, value, and ethics into the practice of ecology. Lockwood and Reiners consider the experience of

¹¹⁵ Mary Midgley, *Gaia: The Next Big Idea* (London, England: Demos, 2001), 11-12.

¹¹⁶ Jeffrey Lockwood and William Reiners, *Philosophical Foundations for the Practices of Ecology* (Cambridge, UK: Cambridge University Press, 2009), 6.

awe felt by a scientist studying the bison population for the purposes of management in Lamar Valley. In addition to her own experience of the bison, she must ask questions of competing utility which might be positive for visitors, but negative for local livestock producers. She must also consider the possibility of intrinsic value each particular bison holds and the role they play in the local ecosystem and larger earth-system. No matter her decision, "...she cannot escape that her science is grounded in a particular and personal worldview."¹¹⁷ Likewise, Gaia is not presented here as the only possibility for conceptualizing the earth, but as one possibility that I see as conducive to the construction of a moral framework for climate change response and a worldview that fits my experiences and intuition.

Gaia theory brought a name and deeper understanding to my experiences. Transcending the bounds of one traditional science, Gaia theory is holistic and includes biology, ecology, climatology, geology, and more. As a systems science, Gaia theory transcends traditional boundaries in the sciences and even beyond as many have found Gaia theory to be a source of religious inspiration and morality. While representing a paradigm shift in the sciences, Gaia theory demands a reconstruction of Western worldviews, specifically of what it means to be human, human relationships to the earth-system as a whole, and the way the earth functions.

Reflecting the paradigm shift on the fringes of science, Gaia theory has been increasingly accepted as a viable earth-model theory in the sciences and beyond. In agreement with Margulis and Sagan, I recognize a recent paradigm shift in ecology from a Darwinian perspective, as "Darwin portrayed evolution just as Newton had portrayed gravity: the result of abstract principles and mechanical interactions."¹¹⁸ The paradigm shift has been from a perspective that

¹¹⁷ Lockwood and Reiners, *Philosophical Foundations for the Practices of Ecology*, 101.

¹¹⁸ Lynn Margulis and Dorian Sagan, *What is Life?* (Berkeley, CA: University of California Press, 2000), 223.

views life and environmental processes as mechanistic and linear to a perspective of life that is cyclical and has web-like systems of organization. Life exists as systems, and systems within systems as previously mentioned. Within each system, there are cycles that allow for the continuation of the system. The way that people, as individuals and entire societies, conceive of their relationships to other beings and the larger earth system has great material ramifications—climate change is evidence of this truth.

Currently, the moral and spiritual systems that dominate the Western world reflect the narrative I was only allowed on the fringes of where man dominates nature. There are also remnants of society, such as the national park system, that reflect the latter narrative in which encounters with non-human nature are sacred: they are the places one can go to know oneself through the agents beyond the perimeters of one's body and daily life. The National Park Service was started and is preserved with an aim to maintain and “preserve” the wild. However, neither of these narratives nor the practices that flow out of them recognize people as participants in an ecosystem with the power to influence and be influenced by other aspects of the system. Gaian encounters reveal more than a mere interdependence and relationship; they reveal a continuity of being within a constantly transforming body, the living body that is the source of and breeding grounds for all life. Meanwhile, life itself regulates the conditions of the Gaian body to be fit for life; thus, Gaia requires an interdependence far deeper than sociality and trophic cycles.

Ontological Implications

On a hike at Jay Cooke State Park in northern Minnesota I encountered the decomposing body of what was once a tall standing tree. The cliffs lining the riverbed, the sometimes rushing and sometimes smooth river, and the Minnesota Northwoods were breathtaking, but what caught

my attention was the very apparent transient state of matter: one fallen tree decomposing and teeming with life all at once. The fallen tree decomposing into the earth was melting into the ground that acted as my path; it was not clear where the tree ended and the earth began because the tree itself, which had always been earth, was once again moving towards detrital form. What was revealed to me as I examined that moment in the tree's trajectory is that although the tree appears to be a separate entity while it is standing, it is in a constant process of transformation and exchange of energy and matter. "Death" and decomposition are significant moments of transformation that reveal the true nature of the tree, that it was never an entity separate from Gaia, but rather it was always Gaia in particular form. In "The Greening of the Self" by Joanna Macy, she argues that:

Systems science goes further in challenging old assumptions about separate, continuous self, by showing that there is no logical or scientific basis for construing one part of the experienced world as "me" and the rest as "other." That is so because as open, self-organizing systems, our very breathing, acting, and thinking arise in interaction with our shared world through the currents of matter, energy, and information that move through us and sustain it.¹¹⁹

Each particular manifestation of Gaia is an open system that takes part and process within a host of other systems, Gaia being the super-system that holds them all.¹²⁰ The tree I witnessed decomposing was not transforming from something it was not into something new, but the matter and energy that once manifested into a tree was emerging into many things anew.

Gaian ecology implodes the stark distinction between the individual and the whole by presenting a theory that makes the whole reliant on particular material manifestations and

¹¹⁹ Joanna Macy, "The Greening of the Self," in *Spiritual Ecology: The Cry of the Earth, a Collection of Essays*, ed. Llewellyn Vaughan-Lee (Point Reyes, CA: The Golden Sufi Center, 2013), 150.

¹¹⁹ It is possible that Gaia is part of a larger system within the universe, but is still the super-organism that encompasses the earth and all life within; bodies are identified by boundaries and the atmosphere is the outer boundary of Gaia's body.

particulars reliant on the whole. The lines are blurred as matter and energy flow through various bodies and those bodies participate in local systems that regulate Gaia's entire body. The falsity of the lines between the individual and the whole, the person and non-person, and the living and dead are significant for ethics because as these lines are rendered false, the lines of moral consideration become blurred. A Gaian worldview calls for an ethical system based on complex systems and networks because each worldview contains a continuity of the individual and the whole.

To further illustrate that the isolated individual is not a concept that fits into Gaia theory one might consider the process of eating. Entering the mouth, a carrot is still a carrot, a vegetable seemingly separate from the self. Yet, at some point the matter that was once carrot becomes part of the consumer's body as nutrients seep into the body: calories provide the energy that animates the matter. Eventually what is left of the carrot leaves the body as waste which then ideally becomes part of the earth and nourishes more life. There is no clear point at which the carrot becomes part of the self rather than a separate entity nor is there a clear distinction between when waste becomes life again. The phrase "You are what you eat" contains ontological truth; a Gaian trophic cycle illustrates that one is all and all is one. In Gaia, "...the body, the material or corporeal basis for 'self' has no absolute time-independent skin-encapsulated topological fixity. It is a sociolinguistic psychoanalytic evolutionary construct."¹²¹ Ideas of self-preservation and survival of the fittest are based on a false sense of individual identity. Flamingoes are not pink because they are genetically engineered to be so; they are pink because "the pigments at the microbial base of the food chain wind up coloring the bodies of these intriguing birds."¹²² What

¹²¹ Margulis and Sagan, *Dazzle Gradually*, 19.

¹²² Margulis and Sagan, *What Is Life?*, 134.

appears to be a characteristic of the bird is only so because of the microbes that they consume. To be human in Gaia is to be a transient material body in relationship to others.

Systems thinking is a newer emergence in the field of ecology, and “[a]ccording to the systems view, the essential properties of an organism, or living system, are properties of the whole, which none of the parts have.”¹²³ Because of the dependence on outside sources, such as a tree’s dependence on water with the response of growing deeper roots, a living entity must be able to respond to its environment, suggesting that all living things are sentient even if they lack a brain. A sentient being is one that has a sense of perception and responds to its environment, also known as consciousness; Margulis and Sagan go so far as to say: “Not just animals are conscious, but every organic being, every autopoietic cell is conscious. In the simplest sense consciousness is an awareness of the outside world.”¹²⁴ Sentient beings are living systems that reside within a larger system, an ecosphere, which consists of other sentient beings. The three key criteria of a living system are “pattern of organization,” “structure,” and “life process.”¹²⁵ A living being of any sort is not a robotic piece of matter, but a process that is dependent on and depended on by other forms of life. This view of life, webs within webs, changes the perspective from an individualistic, mechanistic approach to one that recognizes the cyclical interdependence of life and matter.

All life forms are dependent on other life forms to survive and maintain stability within the ecosystem that must be kept suitable for life. According to Lovelock, “The natural death and decay of organisms would have released key materials to the community at large, but some

¹²³ Fritjof Capra, *The Web of Life: A New Scientific Understanding of Living Systems* (New York, NY: Anchor Books, 1997), 29.

¹²⁴ Margulis and Sagan, *What Is Life?*, 150.

¹²⁵ Capra, *The Web of Life*, 161.

species may have found it more convenient to gather their essential components by feeding on the living.”¹²⁶ Eating and dying are necessary aspects of all life and two key processes that keep Gaia alive. What makes Gaia recognizable is the unlikely but present arrangement of life-forms that work together to keep Gaia’s atmosphere at a level fit for life rather than at equilibrium.¹²⁷

One implication of systems thinking in ecology is that ecologists began to look at the interdependent relationships out of which life emerges and flourishes. According to Capra, “In recent years our knowledge of those food webs has been expanded and refined considerably by the Gaia theory, which shows the complex interweaving of living and nonliving systems throughout the biosphere—plants and rocks, animals and atmospheric gases, microorganisms and oceans.”¹²⁸ The new perspective eliminates any grand ecological distinctions, other than language, between humans and other living matter as all living matter is able to respond to its environment and all life is a part of a continuous cycle. In the Gaian system, “[i]ndividual components of the food web continually die, to be decomposed and replaced by the network’s own processes of transformation.”¹²⁹ Through death, living beings give back to their ecosystem by providing nutrients and food for the beings that once provided the same for them. The smaller system of the individual organism is under the influence of the greater systems of which it is a part. The disease, obesity, and mental health status of the Western world are not only symptoms of medical illness, they are symptoms of a wayward system.

A major challenge to this argument will be hanging in balance the value of “individuals” and systems. To face this challenge, I will make the case for the agency and value of systems

¹²⁶ Lovelock, *Gaia*, 21.

¹²⁷ Lovelock, *Gaia*, 31.

¹²⁸ Capra, *The Web of Life*, 179.

¹²⁹ Capra, *The Web of Life*, 213.

themselves and concentrate on system-focused understandings of material entities, including humans. As Elisabet Sahtouris articulates:

No being in nature can ever be completely independent, although independence calls to every living being, whether it is a cell, a creature, a society, a species, or a whole ecosystem. Every being is part of some larger being, and as such its self-interest must be tempered by the interests of the larger being to which it belongs. Thus, mutual consistency works itself out everywhere in nature...¹³⁰

One organism's trash is another organism's treasure. Symbiotic evolution allows for entropy to be maintained in life because we exude waste that is energy for other beings; for example, humans require oxygen, a pollutant of plants, while plants require carbon dioxide which is a pollutant of many other forms of life.

No matter the manifestation of life, all forms come from stardust; the trees in Big Sur that I finally saw as my elders are a part of my lineage along with the transient tree in Jay Cooke. As children we know Gaia and see them daily but as we grow, Gaia is hidden behind the veil of Nature, as Latour will argue, that we must work to tear down. In order to appropriately respond to threats of climate change we must know who is echoing the call; Gaia is a living organism equipped with mechanisms of response and not an inanimate sphere floating through space. This is why the approach must be holistic; we cannot begin to develop new ways of living without first understanding what Gaia is, and when we do develop new ways of being a part of Gaia they must come from a place deeper than surface-level actions.

The discrediting of the distinction between what is perceived as self and what is perceived as other is invaluable for the cultivation of a deep cultural response to the climate crisis. What is considered to be "environmental degradation" is also destruction of the self. A

¹³⁰ Sahtouris, *EarthDance*, Kindle 502.

perspective that considers nature to be non-valuable is problematic for the development of an appropriate response to climate crisis. A being is not a soul captured in a material body, but a particular manifestation of active material. The Gaian perspective does not require that one deny material being altogether; in fact, it promotes the realness of animated bodies and lively material. One must deny the separation of the self from one's environment and surrounding bodies, but one may insist on one's particularity and uniqueness. Gaia requires a balance between what is perceived as the individual and what is perceived as other because particular manifestations of life and of material are real and significant pieces of Gaia's body. However, all bodies compose and are composed by Gaia's body. Humans are formed from and sustained by the material of the earth; each human body truly is an earth-body. Ideally, upon death the material of the body will once again return back into the earth and continue on its journey through the cycles of Gaia.

To the epistemological naturalist, the world is a sphere sitting on an axis and spinning mechanically. In the theist view it has been created and set to spin by God, by some sort of intelligent design. The concept of design is important to both of these worldviews. However, when one invokes Gaia, one becomes situated with her feet on the ground, she looks up and sees the world moving around her while at the same time she is part and parcel of the moving world. A Gaia worldview understands matter as the source of movement. As a property of matter, agency is the moving force of the world. No longer is there a need for mechanical understanding or external designer. Bruno Latour points out that everything is more than simple mechanistic designs. We are agents and whether or not one's worldview allows it, we act in relationship with other agents. There is a complexity to Gaia, and thus to humans as part of Gaia because "Gaia is not only external but also internal; it is not universal, but local; it is neither overanimated nor

deanimated; and, beyond that, unquestionably, it remains totally controversial.”¹³¹ As members of Gaia’s holarchy each body holds power to act inwardly and outwardly, thus, to impact the system as whole. Species play various roles within an ecosystem, so the task at hand is to figure out what role to play.

Humans in Gaia

While the unique role of humans within Gaia is still debated, it is clear that human society is not currently fitting the bill, as Edward Goldsmith argues:

[modern society’s] overriding goal is economic development or progress, the supreme heterotelic enterprise, which can only be achieved by methodically disrupting the critical order of the ecosphere so as to replace it with a totally different organization—the technosphere that derives its resources from the ecosphere and consigns to it ever more voluminous and more toxic wastes.¹³²

Rather than the support and care of all life, which would include human life, Western culture is built around what is perceived as progress through technological development and accumulation of capital rather than living in a way that is in harmony with the systemic and cyclical structures of Gaia. Euro-American society was built based on an assumed hierarchy of being on earth, with humans on the top of the ladder.

When contemplating the role of humans in Gaia, Sagan and Margulis draw from the invaluable function of wetlands and suggest that we ought to reflect their usefulness within the Gaian system,¹³³ but instead we drain and develop them. We do not hesitate to recognize that humans are social creatures and that it is best for individuals to live in communities with other humans, thus acknowledging the value of symbiosis; yet the suggestions that we ought to recognize our symbiotic relationship with other beings has been ignored by traditional Western

¹³¹ Bruno Latour, *Facing Gaia*, trans. Catherine Porter (Medford, MA: Polity Press, 2017), 183.

¹³² Goldsmith, *The Way*, 402.

¹³³ Margulis and Sagan, *Dazzle Gradually*, 31.

discourses that place humans above and beyond the natural world. We are wired to live symbiotically with our environment and we do whether we recognize it or not.

This notion of being—a whole composed of and encompassed by other wholes—composes a holarchy instead of the traditional conceptualization of hierarchy. Beyond a new way of understanding the relationality of beings in a way that goes beyond interdependence towards encompassment, thinking of Gaia as a holarchy has major implications for the operation of ethics. Sahtouris points to these implications when she says: “Every being is part of some larger being, and as such its self-interest must be tempered by the interests of the larger being to which it belongs. Thus, mutual consistency works itself out everywhere in nature...”¹³⁴ The major moral faux pas of Western society has been the assumption that humans operate as individuals and not as part of a larger whole, or as the whole of many other parts. Without tempering the interests of the individual to the interests of the whole, morality becomes an endeavor of the isolated individual to become good and to pursue the good life rather than a communal relationship. If the value of the whole wins out, the opportunities to justify injustices grow. The holarchic nature of Gaia’s body implicates a relational ontology and requiring a communal ethics is the first of many instances where Gaia transcends the boundaries of science, ontology, and ethics.

An authentic Gaian worldview does not make a harsh distinction between the individual and the whole. Gaia hangs on the permeable boundaries one body shares with others; it is through processes and transformation of energy and matter that manifest as “individual” bodies but are actually manifestations of Gaia composed of her own body and working toward the preservation of her own life. The Gaian sense of “self,” as explained through systems theory and

¹³⁴ Sahtouris, *EarthDance*, Kindle 504-506.

explored through trophic cycles that all life and matter participate in, has major implications for understanding humans as moral beings in relationship to others. The assumed hierarchy of life has been found wanting in comparison to the web-like cyclic reality of ecological being. It goes against what Goldsmith argues is: “The Way to be followed by all human beings was the same as that which must be followed by society as a whole, by the natural world, by the cosmos and therefore by the gods themselves.”¹³⁵ The problem is that the laws and the structures that were previously believed to govern the natural world, the cosmos, and the gods have been found faulty. Yet, Western society has continued to function within the old structures and systems.

The Gaian “self” is quite contrary to the Cartesian self that is defined by a separate and isolated thinking individual. The “self” understood through Gaian eyes is a particular manifestation of animated material that is a part of a continuous process of material and energy exchange. This understanding of “self” has major implications for the ideas of life and death as they are typically understood. What appears as death, the death of an individual body in any form, is the mere transformation of energy, the equivalent of Gaian blood-flow that keeps their heart pumping. A body is never the same from one moment to the next and, although this is difficult to recognize in moments close together, it is constantly changing and transforming into something new. Re-encountering Gaia for the first time as an adult, because I do believe we know Gaia as infants and children and are conditioned to ignore them, is similar to seeing your “self” in the mirror for the first time and recognizing the thing looking back at you as “self.” Through encounter, the agency of Gaia demands transformation of Western values, aims, and practices.

¹³⁵ Goldsmith, *The Way*, 397.

Philip Clayton and I argue that agency is held by all living entities ranging from the smallest parts of the holarchies that compose Gaia to the whole multitude that is Gaia. Recognition of Gaia's agency comes at a price: "To recognize that Gaia exercises her own agency requires a balance between valuing individuals and valuing collectives. All of us living things depend on this balance; every organism depends on its ecosystem and every ecosystem on its organisms."¹³⁶ Gaia as agent requires the decentralization of humans as the sole actors on planet earth, rather it recomposes humans as agents intra-acting with and amongst other agents to compose a body in which all systems can flourish.

Functioning as symbionts, humans are a part of a living network of material being. Koestler's concept of holarchy best explains the form of relationship between beings not as isolated individuals but as wholes made of parts and parts making up wholes:

A "part", as we generally use the word, means something fragmentary and incomplete, which by itself would have no legitimate existence. On the other hand, a "whole" is considered as something complete in itself which needs no further explanation. But "*wholes*" and "*parts*" in this absolute sense just do not exist anywhere, either in the domain of living organisms or of social organisations. What we find are intermediary structures on a series of levels in an ascending order of complexity... The term I would propose is "holon", from the Greek *holos* = whole, with the suffix *on* which... suggests a particle or part.¹³⁷

The radical implication of Koestler's holarchy model is that rather than putting the isolated individual in competition with a collective, it forces us to recognize the dependence of the particular on the collective and vice versa.

¹³⁶ Philip Clayton and Elizabeth Singleton, "Agents Matter and Matter Agents: Interpretation and Value from Cells to Gaia," in *Entangled Worlds: Religion, Science, and New Materialisms*, ed. Catherine Keller and Mary-Jane Rubenstein, (New York, NY: Fordham University Press, 2017), 147.

¹³⁷ Arthur Koestler, *The Ghost in the Machine* (London, England: Picador Press, 2015), 48.

Considering humans as holons requires reinterpretation of what it is to be human looking both to the inward-self and outward-other. Looking inward, Koestler argued that humans are wholes consisting of parts rather than singular minds operating material machines. Looking outward, we are forced to see each person as a part of a larger collective—human groupings and beyond. As particular beings, we feel the tension between the interests of our experienced selves and the interests of larger collectives. Koestler argues that historically we have made the mistake of assuming transcendent selves, resulting in the oppression of other members of the collectives we actually belong to.¹³⁸ As holons of Gaia’s holarchy, we have failed to temper the interests of individuals and select collective societies to the interests and limits of the larger whole and by doing so have put ourselves at risk.

Through tools and technology, humans have been able to pursue the unmitigated evolution of collective culture that has not previously been tempered by the interests of the whole—until now. Climate change makes evident that the system as a whole has been taxed too greatly, making the consequences of our collective historical actions amplified long into the future. At the core, this misstep is a faux pas of Western morality which is shaped by the problematic Western ontologies discussed in the previous chapter. Climate change is the reaction of the whole to the poor material relationships embodied by some of Gaia’s parts. Thus, climate change is not solely a scientific issue but an issue that reaches deep into foundational beliefs about what the world is and the experiences of relationship that shape and are shaped by those beliefs.

¹³⁸ Koestler, *The Ghost in the Machine*, 57.

Religious Agents

While there is no room for a transcendent god(s) in Gaia, there is plenty of room for religious practices and experiences. My ritualistic run to the end of the dock to greet the sunfish, Leopold's encounter with a dying wolf, the development of relationship between humans and canines are reflective of religious rituals and sacred encounters. In his 2013 Gifford Lecture Series titled "Facing Gaia: A New Enquiry into Natural Religion," Latour went so far as to say that while in name *religion* and *nature* are separated into impermeable categories, if one removes the name and considers the function of each they are *almost* one and the same. When giving the Gifford Lectures, Latour goes so far as to say that the term "natural religion" is a pleonasm.¹³⁹ Under new materialism and Gaia theory, the lines between "religion" and "nature" become hazy at best, as do many other arbitrary lines boldly drawn in dualistic worldviews. The language of religion remains useful because Gaia has drawn people into a new worldview that is awe-inspiring, deeply shaking the ontological foundations of those who encounter Gaia.

In *Facing Gaia: Eight Lectures on the New Climate Regime*, while critiquing the constructed relationship between culture and nature, Latour recognizes the importance of continuing to use the term "nature" as the universalized abstraction against which culture is defined. In this way, he argues that "nature" serves as an umbrella term that includes culture, in the same way that the term "man" refers to humankind except for that here the universal is preferred over the particular and in the dichotomy between nature and culture, culture is preferred by "man". Exploring nature as a symbol further, he designates it as a proper noun because functionally it has become a stable figurehead to which politics relates. The instability of what was once an assumed stable concept has become apparent via climate change. Latour later

¹³⁹ Bruno Latour, "Facing Gaia: A new enquiry into Natural Religion," The Gifford Lectures, The University of Edinburgh, February 18-28, 2013.

suggests that Gaia as a figurehead encompasses the instability—the agency—of ecology that was always there materially but unencompassed by the constructs of Nature/Culture. For Latour, Nature still plays an important role because it symbolizes the universalized reference to nothing and everything that serves as the inactive backdrop against which politics happens, rendering politics untouchable by the sciences and the sciences bereft of value. He argues that ecology has problematized this relationship because ecology cannot serve as the consort to politics as Nature does because it is inherently political.¹⁴⁰ Nature stands as a figurehead in the Nature/Culture divide through which Gaia bursts forth, interrupting and merging science and politics as an ecology that is political.¹⁴¹

Latour recognizes that while in name *religion* and *nature* are separated into impermeable categories, religion being a part of culture, if one removes the titles and considers the agency of each thing they are functionally quite similar. Nature, or in this case Gaia, may not necessarily be divine in name but commands the same sort of awe, rendering Gaia a religious figure bereft of theism. Latour points out that often when one assumes oneself to be irreligious, “there is always a deity waiting in ambush.”¹⁴² Gaia is an agent of religious experience and thus functionally religious, though not necessarily theistic.

In *Pantheologies: Gods, Worlds, Monsters*, Mary-Jane Rubenstein suggests that even more than an agent of religious experience Gaia is compatible with the historically unpopular position of pantheism. Recognizing the similarities between an atheist and pantheist position in relation to Gaia, Rubenstein argues that the pantheist position widens the scope of moral personhood to include all agencies of Gaia:

¹⁴⁰ Latour, *Facing Gaia*, 14-47.

¹⁴¹ Latour, *Facing Gaia*, 86-87.

¹⁴² Latour, *Facing Gaia*, 156.

The decision either to abide or run from this discomforting mood can be said to constitute a second, *ethical* difference between the ‘all-god’ and the ‘no-God.’ Put succinctly, to recognize all things as divine—not by virtue of some ‘essence’ they share, but in their material particularities—intensifies our sense of relatedness to all things, and this sense can open onto responsibility on the one hand or disavowal on the other.¹⁴³

Rubenstein rightly recognizes that it is the “material particularities” that intensify our relatedness to others and my curiosity drives me to question whether or not agential relationships between humans and other material particulars mandate moral imperatives on their own without the attribution of divinity. Under a panagential ontology, the material agencies of Gaia draw their own moral constraints on humans by their material, rather than their divine, nature. I do agree that Gaia is compatible with a pantheistic theology and can see that there is appeal to invoking divinity out of, or into, Gaia. If there is Gaia and there is divinity, divinity-in-all is certainly the position to hold. However, Gaia stands without divinity in a way that the pantheistic divine does not stand without Gaia. Thus, the deification of Gaia is an unnecessary, though certainly possible, step towards the consecration of Gaian sciences. Beyond unnecessary, positing a divinity in order to elicit the moral significance of material beings proves problematic because this move implies that matter itself is not enough to render moral constraints. Instead, I argue that the agential nature of matter itself is what evokes moral significance.

Biologist Elisabet Sahtouris recognizes and experiences Gaia as a scientific theory that shatters boundaries traditionally constructed between intuition, science, religion, and ethics:

...the theory that our planet and its creatures constitute a single self-regulating system that is in fact a great living being—is the conception of physical reality in which my philosophy is rooted. Quite simply, it makes more sense on all levels—intuitive, experiential, scientific, philosophical, spiritual and even aesthetic and ethical—than any other conception I know.¹⁴⁴

¹⁴³ Mary-Jane Rubenstein, *Pantheologies: Gods, Worlds, Monsters* (New York, NY: Columbia University Press, 2018), Kindle 5267.

¹⁴⁴ Sahtouris, *EarthDance*, Kindle 219-221.

Here Sahtouris breaks the molds of science and religion by unveiling Gaia as both a scientific theory and the foundation of a worldview. In agreement with Sahtouris, Clayton and I conceive of the ways that Gaia theory can reinvigorate one's perspective because:

Gaia's lifeworld entails a thought-world long forgotten, even repressed, in the intellectual categories that dominated paradigmatic Western philosophy and theology. Dead matter, isolated atoms, freestanding substances, and controlling empires offer little help in comprehending the interdependent world of Gaia and her indwelling systems... As the distance between sacred naturalism and fully immanent theism grows smaller, the old dichotomies disappear.¹⁴⁵

While I recognize the closing gap, my approach to Gaia leans more toward a sacred naturalism than pantheism. While Gaia is compatible with immanent theisms, Lovelock and Margulis also distance themselves from positions that require deification of Gaia while maintaining that Gaia transcends the boundaries of religion and science. Lovelock even goes as far as saying: "I have tried to show that God and Gaia, theology and science, even physics and biology are not separate but a single way of thought."¹⁴⁶ Lovelock more openly discusses the possible relationships between Gaia and God, while warning against both becoming dogmatic.

Margulis and Sagan are more critical than Lovelock of a deified Gaia but maintain a sense of awe saying that, "The cosmos, more dazzling than any sect's god, is enough. Life is existence's celebration."¹⁴⁷ I tend to agree with Margulis and Sagan; I do think there is room for God in Gaia, but having experienced the sacred through relationship with material co-agents I think positing divinity gets in the way of the power of material being. Humans are material earth-bodies and through the power of material agency we are a part of Gaia's agencies in relationship with other particular material agencies.

¹⁴⁵ Clayton and Singleton, "Agents Matter and Matter Agents," 149.

¹⁴⁶ Lovelock, *The Ages of Gaia*, 199.

¹⁴⁷ Margulis and Sagan, *What is Life?*, 232.

Conclusion

The story of Gaia I refer to begins with the scientific theory of James Lovelock that proposes Gaia as the name for his theory that the all-encompassing earth system is a living entity. However, the name Gaia points back to a religious history and I argue towards a materialist religious future. For the most part, Lovelock has gracefully walked the tense line that holds the many facets of Gaia together; however, one primary criticism of Gaia theory in the earliest proposals was that the “Gaia” was suggestive of a teleology, which caused many scientists to call his theory into question.

While Lovelock did not directly suggest that a teleology was involved, his first proposal left the possibility open which led to much ridicule from the scientific community. The ridicule was furthered when Lovelock took the advice of his neighbor William Golding and named the theory Gaia, after the Greek earth goddess, increasing the perceived implication of teleology and religiosity in the initial proposal. In Greek mythology, the deity Gaia is the personified earth; Gaia came into being alongside eros (love) in the wake of chaos. When her partner, Uranus, tried forcing their children to stay within her, she developed a plan with one of her children to castrate him—a move that drove creation forward allowing her children to flourish.¹⁴⁸ While not Lovelock’s intention, by associating the theory with the Greek goddess he pulled the science further into question within the scientific community while breathing new life into an ancient myth of a clash between patriarchal and planetary being. In order to demonstrate that the connection between his theory and the ancient goddess was only in name, Lovelock insists that

¹⁴⁸ “The Theogony of Hesiod,” trans. Hugh Evelyn-White (1914), accessed January, 20, 2019, <https://web.archive.org/web/20190120203145/http://www.sacred-texts.com/cla/hesiod/theogony.htm>.

Gaia theory only proposes the earth system as a living entity, not a teleologically driven organism. While not Lovelock's intention, I contend that there is great value in the historical connection between an ancient story of patriarchal and planetary clash and the contemporary story we now find ourselves within.

I agree with Margulis that to believe humans are capable of "saving" the earth given our powerlessness in the face of Gaia is tragic. However, I maintain that action is necessary, if not inevitable, because what humans do have the power for is inflicting major damage on Gaia and causing injustices to other parts of Gaia's body. Margulis was right to claim that Gaia is tough; Gaia will persist with or without justice on a human scale. Gaia is, however, more than a singular bitch. Gaia is many bitches working together that are indifferent to but also include the human disposition. Western humans have a moral responsibility to adapt to climate change in a way that does not place the burden of responsibility on those who have been and will be most disenfranchised by global change. Gaia is the best ecological model for soliciting a response to climate change because it is a robust and dynamic theory that lends itself well to an ontology and ethics. By its very nature, Gaia theory breaks down boundaries between disciplines that are typically held to be completely unrelated.

The connection in name between Gaia theory and Gaia the goddess is what attracted many ecofeminists back to Gaia as both a theory and theology. However, Gaia theory as goddess puts ecofeminists at risk of falling into many of the same patterns that ecofeminists take issue with in Western paradigms. While I appreciate how the ancient myth of Gaia the goddess reflects the current clash between patriarchy and planet currently underway, Gaian science is not conducive to deification, dualism, or anthropocentrism. Gaia theory begs for an ontology of moving matter that brings language of agency and value to Gaia's multiplicity of being.

Chapter 3: New Materialisms

So, what is life? It is a material process, sifting and surfing over matter like a strange, slow wave. It is a controlled, artistic chaos, a set of chemical reactions so staggeringly complex that more than eighty million years ago it produced the mammalian brain that now, in human form, composes love letters and uses silicon computers to calculate the temperature of matter at the origin of the universe...It formed itself out of star stuff...

–Margulis & Sagan, *What is Life*

In the Western worldview, we assume that science has led us to better understand ourselves and the world in which we live. Yet, in our current time we are finding that in many ways we have misunderstood ourselves and our world through science. However, this misunderstanding cannot be credited to science alone as science is always in dialogue with culture, religion, society, and especially economy. In the previous chapters I covered some of the many ways science has been entangled with problematic worldviews and led to great damages and violence throughout place and time. This is not to discount the practice of science or diminish the contributions the practice of science has made to the ecosystem; however, we must exercise caution in our epistemology and recognize that science is a *practice*, not a fact. Through the practice of science, we come to learn things about the world and interpret science as practice in a way that gives meaning and value to experiences we have as humans. The scientific practices, entangled with other facets of organizing life as humans, have led us to the predicament Carson outlines in the opening quote. In an effort to understand nature for its utility we have actually misunderstood it entirely, molding it into something that will cause great suffering rather than flourishing.

In contrast, new materialism offers a new ontology, conducive to Gaian sciences, set against universalized ideals that recognizes the interconnection of all that is, values

particularities of material manifestations, and rejects human exceptionalism on the premise that humans too are material beings. Unlike materialisms of the past, new materialism does not leave room for the reduction of the material world to a mechanistic, mutable, and predictable system that humans can use and manipulate without limitation. New materialisms call for a deep and all-encompassing connection between what one understands to be one's material body and the rest of the moving network of material things that create what one experiences as a life, thus embedding humanity in the flux of the earth—a correction to the currently operating misunderstandings of matter and, as such, ourselves. In this way, new materialism gives meaning to matter and brings together again the realms of science and meaning-making that have been separated to the detriment of the earth. New materialism solves the problem outlined in Chapter 2 by dismantling the binaries and providing language of value to the sciences. In addition to asking what we can know through the practice of science, new materialism binds questions of knowledge with questions of meaning.

In this chapter I will rely on the work of new materialists such as Rosi Braidotti, Jane Bennett, and Karen Barad. While the work of these authors is not all-encompassing of new materialism, it represents the stream of new materialism that beckons for an ecofeminist socio-historical critique and future reconstruction. In their introduction to *Material Feminisms*, Stacy Alaimo and Susan Hekman recognize that “[e]nvironmental feminists have long insisted that feminism needs to take the materiality of the more-than-human world seriously.”¹⁴⁹ As such, I will utilize new materialisms situated more closely to feminism than French continentalism. Bruno Latour's work encompasses the connections I make between new materialism, Gaia

¹⁴⁹ Stacy Alaimo and Susan Hekman, ed., *Material Feminisms* (Bloomington, IN: Indiana University Press, 2008), 4.

theory, and religious experience so his most recent works will play a significant role as I make connections between new materialism and systems ecology in order to present a holistic worldview.

New materialism turns “matter” from a noun to a verb in all of its forms: matter matters and is matter-*ing* through the exercise of agency. Matter is an active and moving thing with or without the characteristics that constitute a living entity. New materialism fills in the gaps of the ecological ontology that Gaia theory points toward and acts as the necessary bridge between ecofeminism and Gaia theory that allows Gaia to shed the connections with Gaia the earth-mother goddess. Ecofeminists needed a new ontology to avoid the practice of building a new house with the master’s tools and I contend that new materialism offers just that in the form of a panagential ontology. In Chapter 3 I offer an overview of what new materialism is, some discrepancies within the discourse so that I can position myself, and then I propose new materialism as a discourse that solves previous problems faced by ecofeminists with a panagential ontology.

What is New Materialism?

As an academic trend, new materialism can be traced back to the early/mid-90’s but the work of new materialism has been taking place across disciplines. Materialism’s renewed narrative of the world emerged in response to the binary-inflicted reductionist worldview constructed by Enlightenment thinkers and fueled by the scientific revolution that privileges the “transcendent” while matter is placed at the bottom of ontological and metaphysical hierarchies. The current worldview of the general populace in Euro-America reflects that of Enlightenment thinkers; thus, the tenets of Enlightenment thinking continue to be the predominating

characteristics of belief throughout Euro-American populations regardless of religious affiliations. One of the hallmarks of new materialist discourse is that it is open-ended, emerging, and marked by differences—so much so that many scholars refer to “new materialisms” rather than “new materialism.” Thus, it would be hypocritical for new materialists to construct a rigid box that new materialism must fit inside. Loosely defined by Diana Coole and Samantha Frost, new materialism is the ongoing project of:

...returning to the most fundamental questions about the nature of matter and the place of embodied humans within a material world; it means taking heed of developments in the natural sciences as well as attending to transformations in the ways we currently produce, reproduce, and consume our material environment. It entails sensitivity to contemporary shifts in the bio- and eco-spheres, as well as to changes in global economic structures and technologies. It also demands detailed analysis of our daily interactions with material objects and the natural environment.¹⁵⁰

New materialism entails bringing matter to the forefront of ontologies with an understanding informed by up-to-date science and awareness of the constantly moving nature of matter.

New materialism is a way of understanding the cosmos as a moving system of vibrant material exchanges and emergence. According to Rosi Braidotti, “‘neo-materialism’ emerges as a method, a conceptual frame and a political stand, which refuses the linguistic paradigm, stressing instead the concrete yet complex materiality of bodies immersed in social relations of power.”¹⁵¹ New materialism is a worldview with major implications for how humans live in relationship with the rest of the material world we are embodied within. Rather than defining new materialism in negative terms based on what the worldview rejects in comparison to other

¹⁵⁰ Diana Coole and Samantha Frost, *New Materialisms: Ontology, Agency, and Politics* (London, England: Duke University Press Books, 2010), 3-4.

¹⁵¹ Rick Dolphijn and Iris van der Tuin, “Interview with Rosi Braidotti” in *New Materialism: Interviews & Cartographies* (Ann Arbor, MI: MPublishing, 2012), 21.

versions of materialism, here I will define new materialisms in terms of what they embrace and share in common.

Generally speaking, new materialisms embrace subjectivity, emergence, transformation, the agential power of things, and the interdependent nature of the cosmos. They embrace non-corollary relationships between nature, culture, matter, value, mind, life, death, organic, inorganic, and bodily forms, while affirming a material world and rejecting anything beyond it, making new materialism a monist worldview.¹⁵² Rather than embracing a dualistic perspective that sets matter apart from spirit, new materialisms attempt to break through dualisms in the pursuit of a holistic, monist perspective.¹⁵³ By breaking through reductionism and dualism, the realm of meaning-making is grounded in the material through which meaning-making entities experience the world. The material that constitutes the earthly embeddedness of embodied beings proves to be the place for making sense and meaning of experiences as a response to material interactions that are interpreted through historically formed cultural lenses. Thus, body becomes the locus for agential experience, interpretation, and imagination. In this way, new materialism solves the problems of ecofeminism that put it at risk of falling into the same patterns it critiqued in the Western paradigm.

Given the widespread implications and sources of support, new materialism is inherently an interdisciplinary project that refuses the separation of academic discourses by integrating the sciences, philosophy, and sociology. Breaking down the boundaries between disciplines allows for value-laden science and science-backed ethics. Karen Barad has made major contributions to the development of and advocacy for the sciences through new materialism. She recognizes that:

¹⁵² Dolphijn and Tuin, *New Materialism*, 93.

¹⁵³ Dolphijn and Tuin, *New Materialism*, 97.

What is needed is an analysis that enables us to theorize the social and the natural together, to read our best understandings of social and natural phenomena through one another in a way that clarifies the relationship between them. To write matter and meaning into separate categories, to analyze them relative to separate disciplinary technologies, and to divide complex phenomena into one balkanized enclave or the other is to elide certain crucial aspects by design.¹⁵⁴

If we look at and study the world through separated windows, the best perspective we can get is one that is partial and disjointed in comparison to what we are capable of if we break down the walls between windows. While Barad rightly insists that science is a subjective practice limited through our material bodies, social constructions, and partial perspective, she insists that we can get a better and more dynamic perspective with a panoramic view.¹⁵⁵ To do so, we must put aside constructed barriers between “matter and meaning” and recognize their quantum entanglement, thus rendering new materialism the perfect bridge between ecofeminism and Gaia theory.

The biggest difference between new materialisms and the damaging Western paradigm critiqued by ecofeminists is that new materialists presuppose that the world is a monist and emergent system rather than dualistic and reductionist. Even the materialism that came out of the Enlightenment was dualist as it separated matter and reason, favoring the latter. Throughout recent history Enlightenment thinkers have served as the grounding of predominating Western thought. While many trace the lineage of dualism to Descartes’s famous “I think, therefore I am” eureka moment, which did serve as a hallmark for the preference of rationality over matter, the belief that the material world is a location for the ignorant is prevalent as early as the work of

¹⁵⁴ Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), 25.

¹⁵⁵ The new materialist epistemology proposed by Barad is reflective of system ecology’s constrained perspectivism and the feminist epistemology of situated knowledges, both covered in previous chapters.

Plato. For Plato, it was only those enlightened philosophers who could see that most people are chasing mere shadows while the ideal and real objects existed above and beyond the experienced material world of commoners. For Plato, matter was a mere shadow of a transcendent ideal. We must now pause to question if we have destroyed the cave, our only home, by chasing after the sun.

In opposition to the belief that the non-material and rational capabilities are of the highest accord, new materialist thinker Quentin Meillassoux argues that non-thinking being precedes thinking-being. Thus, the formulation “I am; therefore, I can think” is more accurate than that of Descartes, though thinking is not a necessary attribute of being. Rather, being is a necessary prerequisite of thinking.¹⁵⁶ In addition to responding to Enlightenment thinking, new materialism is a more recent response to the linguistic turn that has taken place in the humanities to the detriment of consideration for the material world. As Gill Jagger puts it in her article “The New Materialism and Sexual Difference,” new materialists are:

Concerned with rectifying this neglect, the new materialism has developed, in part, in debate with poststructuralism and with Judith Butler’s theory of the body, which often serve to exemplify the linguistic turn... The new material feminisms attempt to address such an imbalance by returning to the materiality of matter. Their aim is to find a way of theorizing the interimplication of the discursive and the material, the natural and the cultural, the body and its social construction in a way that is more respectful of the agency of matter—to find a way of according matter a more active role in the interimplication of each of these aspects.¹⁵⁷

New materialisms bring matter to the forefront of human thought and re-ground ontology in matter. Many new materialists still use the work of social constructionists and phenomenologists, but they bring the matter at play behind the scenes in these discourses to the forefront.

¹⁵⁶ Dolphijn and Tuin, *New Materialism*, 79.

¹⁵⁷ Gill Jagger, “The New Materialism and Sexual Difference,” *Signs* 40.2 (Winter 2015): 321, <https://doi.org/10.1086/678190>.

Classic materialism and new materialism share the basic premise that everything is composed of matter. Nevertheless, understandings of matter found in classic materialism contribute to the problem of human exceptionalism and reductionist beliefs about the earth—so much so that the science of living systems, ecology, did not emerge as a recognized science until the mid-20th century. Whether one's worldview was mechanistic or dualistic, it has only been recently in modern Western science that the earth as a living and dynamic system has been well-accepted. Thus, materialisms of the past were based on an understanding of the earth and other material things as mechanistic systems at best.

While classic materialism does not attribute agency or vibrancy to matter and remains tangled with consumerism, strands of new materialism insist on a vibrancy, or enchantment according to Jane Bennett, that lies within the material world itself. In contrast to Marxism, new materialism is not centrally focused on the human-produced material economy. Thinkers in the lineage of Marx are concerned with lines of production, monetary economy, and social structures that result from and are upheld by this economy. New materialism has major implications for those same entities but is centrally concerned with the political agency of matter rather than the ways human distributions of matter impact human society. New materialisms open materialism to politico-socio-economic critique in which all things are agents rather than considering humans as agents of production and other things as objects. It is important to note that classic materialism and new materialism are not necessarily in opposition to one another, but rather classic materialism paved the way for new materialisms to develop. In the face of environmental degradation, new materialism is more helpful because in addition to sharing concern for material conditions of humans, the discourse requires one to consider the agency of all thing impacted by people's destruction of the earth.

Classic materialism can be identified closely with the sciences, as it has shaped scientific discourse for centuries. According to Bruno Latour, this strand of mechanistic and reductionist materialism:

...seemed an ideal way to shatter the pretensions of those who tried to hide their brutal interests behind notions like morality, culture, religion, politics, or art... Materialism, in the short period in which it could be used as a discussion-closing trope, implied what now appears in retrospect as a rather idealist definition of matter and its various agencies.¹⁵⁸

Under classic materialism, matter is understood to have a flat set of properties that are always within reach of human knowledge and within the grasp of human power and control, fitting the mechanistic earth-model critiqued by ecofeminists. This materialism denies the power, agency, and emergent properties of matter; assemblages are viewed as mechanistic systems and are, above all, predictable. Under classic materialism matter is entirely object, which is why many new materialist thinkers refer to bodies of matter as “things,” since “object” implies a lack of power, movement, relationship, and agency. Classic materialism is based on Enlightenment science that supported a flat, mechanistic, and idealist view of nature. New materialisms reinvigorate classic materialism by integrating cutting edge science of today that reveals the emergent, unpredictable, moving, and agential powers of matter which require one to reconsider the power, agency, value, and relationships that are experienced within the material cosmos in which humans participate. New materialisms insist on a vibrancy—matter as verb—that is lacking in classic materialism.

Tributaries of New Materialism

¹⁵⁸ Bruno Latour, “Can we get Our Materialism Back, Please?,” *Isis* 98 (2007): 138, <https://doi.org/10.1086/512837>.

Given the opposition to a constricting definition and interdisciplinary nature of new materialism, it is better understood as an academic river with many tributaries and distributaries. Two of the most markedly distinct tributaries are those which I group into French continentalists and material feminists.¹⁵⁹ Within each tributary there are minute differences, but there are some major differences between the new materialisms coming from the line of French continental philosophers and those emerging from a line of feminist thinkers. For new materialists, the world is full of entanglements; ontology and epistemology represent an instance of entanglement where the two cannot be separated out from one another. However, thinkers divided into the two tributaries of new materialism I have identified differ on how they conceptualize the entanglement. Manuel DeLanda and Meillassoux fall on the side of the French continentalists for whom an ontology is developed “either at the expense of an immediate or simultaneous interest in epistemology and ethics.”¹⁶⁰ DeLanda claims that materialist philosophy must start from the acceptance of a real material world independent from the mind, which is a basic tenet of new materialism. He goes on to question where the identity comes from if not the mind and concludes that “all objective entities are products of a historical process, that is, their identity is synthesized or produced as part of cosmological, geological, biological, or social history.”¹⁶¹ While DeLanda shares in the ecofeminist concern about the histories that constitute current material manifestations, he differs from ecofeminists in his disinterest in the way that these material histories have often been shaped by violence and oppression.

¹⁵⁹ There is much cross-pollination between these two schools, so the line is somewhat arbitrary and is an oversimplification of the work being done but it remains helpful for mapping out new materialist thought.

¹⁶⁰ Dolphijn and Tuin, *New Materialism*, 16.

¹⁶¹ Dolphijn and Tuin, *New Materialism*, 39.

Applying a historical materialist method in “The Geology of Morals: A Neo-Materialist Interpretation,” Delanda traces the material formation process of hierarchical and meshwork assemblages.¹⁶² Delanda applies his analysis to both human structures, such as a class system or marketplace, and non-human assemblages including geological strata systems and ecosystems. He argues that in the formation of hierarchical structures what started as a collection of heterogeneous materials is sorted into homogenous groups and then the groups are consolidated in relationship to the other groups to form a structure. The formation process for meshworks is more complex but involves heterogeneous symbiosis, an affirmation of Margulis’ discovery of symbiosis as the driving force of material relation, instead of things being sorted into homogenous groups. In either case, he argues that these processes involve self-organization through the flow of matter and energy, rendering material bodies to be both momentarily particular and transient. He deems the self-organizing non-organic systems “body without organ” and recognizes it as a system of production. While DeLanda’s argument illustrates the moving, interdependent, and transient nature of material bodies his analysis lacks the emphasis on power and agency that enriches the feminist strand of materialism; he excludes the moral component of assemblage formation in relation to human structures.

In contrast to the tributaries of French continentalists, Rosi Braidotti, emerging from the line of feminist thinkers, purports a new materialism that is “immediately ontological, epistemological, and ethical...”¹⁶³ Rather than conceiving of a worldview in which one must sacrifice epistemology and ethics for an ontology, feminist new materialisms purport a

¹⁶² Manuel DeLanda, “The Geology of Morals: A Neo-Materialist Interpretation,” presented at Virtual Futures 95 (Warwick University, UK: February 1995), accessed January 13, 2019, <https://web.archive.org/web/20190113231254/http://www.t0.or.at/delanda/geology.htm>.

¹⁶³ Dolphijn and Tuin, *New Materialism*, 16.

worldview that recognizes the entangled nature of ontology, epistemology, and ethics. Identity is a tool for the process of making meaning of experiences shared between material bodies, which are themselves only a cohesive system of parts working together. Feminist thinkers tend to emphasize a more deeply relational ontology, focusing not on the power of an “individual” to act but on the fact that acting and agency are relational properties. Karen Barad argues:

Agency is not held, it is not a property of persons or things; rather, agency is an enactment, a matter of possibilities for reconfiguring entanglements. So agency is not about choice in any liberal humanist sense; rather, it is about the possibilities and accountability entailed in reconfiguring material-discursive apparatuses of bodily production, including the boundary articulations and exclusions that are marked by those practices.¹⁶⁴

What Barad’s definition of agency implies is that agency is not a component of a thing in and of itself; rather, agency is the shared power to act and be acted upon amongst things. Thus, experience is the event of both acting and being acted upon; one cannot occur without the other because of the inherent relationality of agency.

All material things share in this ability, but agency is not a property that can belong to a thing alone. Agency is held by all things and yet is only possible in relationship, thus unveiling the inherent relationality of being. The materiality that a human can only experience independently as a thing’s identity is possible because of what Barad calls “agential realism.” The implications of this collective nature of being are that “doing” is a group activity. Instead of objects acting upon subjects in a linear cause-effect relationship, Barad labels the exchange of influence that occurs in action as “intra-action.”¹⁶⁵ At each moment we are faced with a multitude of possibilities for intra-acting and so ethics is the business of intra-acting responsibly to unfold the becoming of a world. Thus, ethics takes place in processes of intra-action;

¹⁶⁴ Dolphijn and Tuin, *New Materialism*, 54.

¹⁶⁵ Barad, *Meeting the Universe Halfway*, 178.

responsibility is a matter of accountability for what Barad calls the “cuts” we are a part of making, whether we choose to be a part of them or not.¹⁶⁶ Ethics requires that one respond to the cuts and the folds as one is swept up in the process of the world’s becoming.

The implications of Barad’s work are far-reaching and require the reshaping of scientific practices and concepts. Barad uses Niels Bohr’s double slit experiment and the work that followed to support her assertion that matter behaves differently depending on what one is measuring and observing. In fact, the experimenter can actually post-determine which slit an atom goes through after it has already gone through—a prime example of agency at work. What this means is that after the atom has gone through the slit the experimenter is the one who actually determines whether the atom behaves like a wave or a particle.¹⁶⁷ What Barad does here is demonstrate that science itself occurs only as a material agential entanglement. This is key to new materialism because it means that there are really no independent “things” that operate off of a predictable code. Rather, and this is the point of Barad’s agential realism, things operate in relation to other things out of a series of possible actions¹⁶⁸—a key tenet in the establishment of a new materialist ethic.

In “The Politics of ‘Life Itself’ and New Ways of Dying,” Braidotti aligns herself with other Spinozist thinkers rather than ecofeminist thinkers. However, Braidotti’s consideration of “life itself” as a material generative force brings attention to the agency of bodies and then to the power dynamics that have emerged amidst the social constructivist turn that new materialisms

¹⁶⁶ Barad, *Meeting the Universe Halfway*, 178.

¹⁶⁷ Dolphijn and Tuin, *New Materialism*, 65.

¹⁶⁸ Barad, *Meeting the Universe Halfway*, 206.

are responding to.¹⁶⁹ By focusing on rectifying the power dynamics that have emerged between a socially constructed split between rational Man (*bios*) and embodied “other” (*zoē*) life forms, Braidotti’s argument is implicitly feminist and environmentalist. Braidotti argues that by accepting the affective power and limitations of human life (*bios-zoē*), possibilities of moving toward ecojustice emerge as people can begin to imagine and hope for the continuation of “life itself.” What ethics requires of us, according to Braidotti, is that we transform the negative, the inevitable forthcoming pain, toward active hope in sustainable futures. As far as the limitations of our bodies will allow, we must push the threshold of understanding the complexity of our intra-actions and affectivity toward relational and material transformations.¹⁷⁰

A new materialist relational ontology is in agreement with ecology which unveils being as a series of open systems, which are the fabric of life and require interplay between animate and seemingly inanimate bodies. DeLanda is correct to recognize that what we experience as an objective material thing is formed through a historical process, but to attribute individuality to a thing is an ontological mistake in the first place. The strand of new materialism followed by Braidotti and Barad, rather, rejects the notion of individuals existing on their own—being is not an island nor should a moral being operate as one.

Barad reworks the concept of agency to an enactment rather than an attribute; “a matter of possibilities for reconfiguring entanglements.”¹⁷¹ In some senses this ontological debate is similar to the age-old question: what came first, the chicken or the egg? In this case it is: what came first, the actant or the assemblage? Material being is not a linear trajectory of causality, but

¹⁶⁹ Rosi Braidotti, “The Politics of ‘Life Itself,’” in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost, (Durham, NC: Duke University Press, 2010), 206-207.

¹⁷⁰ Braidotti, “The Politics of ‘Life Itself,’” 208-211.

¹⁷¹ Dolphijn and Tuin, *New Materialism*, 54.

processes of “intra-action” that result in the emergence of experiencing subjects and objects.¹⁷² Agency implies mutuality and relationship, a response-to rather than property-of, but there must be a “thing” that is agential in order for activity to occur. New materialism, no matter the strand, forces one to think about one’s “self” as a thing in relation to other things—as a thing that exists only as part of a vibrant, disordered, material, dynamic process in a cosmological entanglement of moving matter that has not always and will not always exist in its current embodiment. This perspective is similar to the conceptualization of an ecological self, explored in the previous chapter. Despite the actual non-existence of a self, new materialists emphasize the significance and value of bodies in their particular configurations and the material circumstances that compose their experiences and circumstances by contending that matter, meaning, and value are deeply entangled.

Why We Need New Materialism for Climate Change

The significance of new materialism is that it allows for a new scientific paradigm to emerge that is value-laden with major implications for how human societies need to change in their relationships to one another and the earth. New materialisms offer renewed ontologies for a worldview informed by science and experience, so people can respond to the biggest issue facing humanity today, global change, in a way that is more just to people and beneficial to the ecosystem as a whole. As a worldview, new materialism speaks to my deepest convictions about the material and relational nature of being and the significance of matter. When I see the world through the constant material exchange happening inside of and around me, it causes me to

¹⁷² Dolphijn and Tuin, *New Materialism*, 55.

behave differently than when I ignore this vibrant economy of exchange and transformation.

In order for human life to continue flourishing on earth, many of the earth's human inhabitants, particularly those identified as being "first-world" citizens, need to change their lifestyles. Further, measures ought to be taken to alleviate the burden of environmental degradation on those human inhabitants who have least contributed to the problem. A materialist worldview requires that humans take seriously the way that matter and material conditions are related to one another; thus, the ways in which the material privileges of first-world citizens of the earth have created material catastrophe for both human and nonhuman members is of utmost importance. Material relations are of utmost importance and new materialisms offer a worldview that brings material relations back to the forefront of thought and action. At the same time, new materialisms break down the boundaries between culture and nature as well as science and value. The breakdown of these boundaries could lead to solutions and actions that are holistically healing for both humans and the planet that gracefully continues to host us.

People must recognize the entanglements of ecology, economy, politics, and ethics in order to construct an ethic that best reflects the ways in which the world system operates. These systems are currently disjointed despite their undeniable influence on one another; new materialism can serve as a framework for the web of entanglement that will allow humans to live better within the larger network of material and energy exchange. There is some irony here in the fact that in order to save ourselves, in order to continue living on this earth, many humans have to let go of their conception of self and see their bodies as an always-changing material manifestation. Beyond a moral issue, human exceptionalism is an ontological misunderstanding. The persistence of human life will require the end of human exceptionalism because we are not apart from the earth-system; to perpetuate human exceptionalism would be to fail to understand

what we are. The first step to this transformation of self-perception is viewing the earth as it really is—a vibrant and dynamic material system that holds the only web of life people are aware of in the entire universe. This web of life, contingent entirely on the material universe, is the only reason humans exist and the only way we will continue, or begin, to thrive.

As a worldview, new materialism offers an alternative way forward in which the concept of human being is deeply grounded in the network of life, material bodies are things themselves rather than vessels for a soul or spirit and, as beings, humans are deeply embedded in and dependent on the matter-energy network flow that composes the earth. What we see emerging here is earth as a suitable setting for human life. The earth as a planet is changing drastically and these changes are impacting all life forms, but the earth will not be destroyed by global climate change. What is being threatened is the well-being of particular bodies for the sake of others, resulting in a material injustice. The plea here is to exchange human exceptionalism for a moral ecology; we must face the fact that the earth does not exist for us, but we exist only because of the earth. The only hope for this pursuit of justice is a radical change in worldviews and practices, especially for those whose worldviews and practices have done the most harm to other people and the earth's ecosystem

Religious Bodies

New materialism has brought a focus back to the immanent aspects of religion as well as a heavier focus on religious acts and the bodies that engage in religious practice. Material bodies are sometimes religious bodies and the historical presence of what has been labeled “religious” suggests that there is something in the material circumstances humans have encountered that has caused bodies to engage in religious practices. The most notable contribution that new

materialism has made to religious studies thus far is the recovery of the body. Additionally, it has caused a surge in the development of new materialist theories of religion. In turn, new materialist thinkers have made room for religion in a variety of cases; some, such as Bruno Latour, even argue that there is little to no agential difference between religion and new materialism because both offer a value-filled worldview that is a framework of belief with a value system and practices that follow. Religion was, historically, the best science of the time.

New materialism purports itself to be based on new scientific developments so in that sense there is little difference between the ways that religions develop and the way that new materialism is developing. In this section, I will examine two different directions of affect between religion and new materialism. First, I will examine the place of religion for some of the most prominent new materialist thinkers followed by the response of some scholars of religion. Second, I will examine the ways that some scholars of religion have applied new materialism to the study of religion.

In addition to Latour's direct approach to addressing the relationship between religion and matter, each of the two major schools of new materialist thinkers, feminist and continental, leaves space for religion in different ways. Braidotti argues that as hope for the future, there is plenty of room for faith in a new materialist worldview:

The postsecular position on the affirmative force of oppositional consciousness inevitably raises the question of faith in possible futures... The system of feminist civic values rests on a social constructivist notion of faith as the hope for the construction of alternative social horizons, new norms and values. Faith in progress itself is a vote of confidence in the future. Ultimately, it is a belief in the perfectibility of Wo/Man, albeit it in a much more grounded, accountable mode that privileges partial perspectives, as Haraway (1988) put it. It is a postsecular position in that it is an imminent, not transcendental theory, which posits generous bonds of cosmopolitanism, solidarity and community across locations and generations. It also expresses sizeable doses of residual spirituality in its

yearning for social justice and sustainability.¹⁷³

Spirit here is understood in an immanent sense and faith is a hope in the future with the knowledge that there is a real material potential for the realization of a better material system. While a monist ontology, new materialism leaves room for spiritual sensibilities that one might experience upon the overwhelming experience of connection that vibrates through the veins of one's body. In order for this system to be realized, it has to be engaged and acted upon by people; to act out of hope for the future is to act out of faith for Braidotti, a type of religious practice.

Addressing religion from a more utilitarian standpoint, William Connolly aligns himself with the likes of Nietzsche, Merleau-Ponty, Foucault, and Deleuze in asserting that "...a spirituality of some sort or other is always infused into experience, interpretation, and action...seeking to draw sustenance from positive attachment to this world."¹⁷⁴ For Connolly, spirituality is the motivating force to do something about one's positive attachment. There is room for religion to be the organizing and uniting structure for action:

It might be surprising to some to hear an immanent naturalist embrace the spiritual dimension of life. But it is not surprising to those of us who at once contest faith in transcendence in the strongest sense of that word and appreciate the profound role that the quality of spirituality places in public life.¹⁷⁵

Religion becomes the human social system for mobilization in the realization of hope; religion is the name for systems of moving material relations that invoke change in light of one's deep material connection to the world as an embedded and embodied creature. Religion is one of the

¹⁷³ Rosi Braidotti, "In Spite of the Times: The Postsecular Turn in Feminism," *Theory, Culture, & Society* 25.6 (2008): 18, <https://doi.org/10.1177/0263276408095542>.

¹⁷⁴ William Connolly, "Materialities of Experience," in *New Materialisms: Ontology, Agency, Politics* ed. Diana Coole and Samantha Frost (Durham, NC: Duke University Press, 2010), 197.

¹⁷⁵ Connolly, "Materialities of Experience," 196.

deeply entangled locations of culture and nature. Religious scholars, too, are seeing the necessity to engage new materialism in theories and study of religion in order to get at what it is that religion concretely points to and what it is about material experience that drives bodies to be religious. What these three new materialists hold in common in their discussions of religion is that religion entails inspired action—i.e. movement manifesting as agency.

In an ironic turn, religious scholars have called for a greater emphasis on movement in new materialism in order to make room for religion. Authors in Jeorg Rieger's *Religious Experience and New Materialism: Movement Matters* choreograph the interplay between religion and new materialism, acknowledging points of contention and, ultimately, blurring the line between the two. Referring to Jeffrey Robbins and Clayton Crockett's *Religion, Politics, and the Earth: The New Materialism*, Crockett and John Reader sketch out a:

post-capitalist vision based largely on New Materialism, where being is energy transformation, and the Earth is viewed as a subject rather than object. Here is a radical theological materialism that opposes any dualism between spirit and matter, or transcendence and immanence.¹⁷⁶

Individually, the authors of the text edited by Reiger have vastly different approaches but collectively they, like Latour, recognize that the agential and movement-focused discourse of new materialism lends itself quite well to what one might call a theology of immanence or naturalistic religion, arguing that “[t]heology is about what is most significant or important, our highest value or ultimate concern. Usually this ultimate concern is called God but... faith in a transcendent God has become questionable.”¹⁷⁷ These authors name energy as the source of both life and value and, since the basis of being is energy and transformation they proclaim the good

¹⁷⁶ Clayton Crockett and John Reader, “Ecology and Social Movements,” in *Religious Experience and New Materialism: Movement Matters*, ed. Jeorg Rieger (New York: Palgrave Macmillan, 2015), 87.

¹⁷⁷ Crockett and Reader, “Ecology and Social Movements,” 88.

news that "...there is nothing to save... because we are always in transformation."¹⁷⁸ There is no one particular, individual, isolated thing to be saved. Life and death are a part of the same material continuum and the continuum does not begin or end with a thing's birth or death.

What Crockett and Reader attempt to do, which is to rattle our sense of self for a process ontology of becoming, Karen Bray does this better by turning it into an ontology of unbecoming. Bray writes: "If we are energy transformation then we might (like the plastic brain) become able to compose new narratives of the self; but also we might unbecome, like excrement, allowing our sense of self-enclosure, determinism, and wholeness to decompose."¹⁷⁹ Bray boldly asks what sort of theology honors a God immanent in feces; perhaps "Holy shit!" is an exclamation of the highest adoration rendering the profane to be sacred. It is through the processes of consumption and excretion, not thinking or speaking, that we are materially becoming and unbecoming. Rather than "God said let there be (X) and there was (X)," the new materialist gospel ought to proclaim: "The chicken pooped! And there was life!" Things do not come into being because someone or something tells them to, things come to be because of the movement, action, intra-action, and transformation of material things that comprise them.

The relationship of material causation causes Rieger to sympathize with the new materialists, saying, "Religious experience, in the account of new materialists, is not merely false consciousness; it can become a force for empowerment and social change."¹⁸⁰ Rieger also appreciates the ways that a new materialist understanding of religion breaks up some of the

¹⁷⁸ Crockett and Reader, "Ecology and Social Movements," 88.

¹⁷⁹ Karen Bray, "Becoming Feces: New Materialism and the Deep Solidarity in Feeling Like Shit," in *Religious Experience and New Materialism: Movement Matters*, ed. Jeorg Rieger (New York, NY: Palgrave Macmillan, 2015), 109.

¹⁸⁰ Jeorg Rieger, "Rethinking the New Materialism for Religion and Theology: Why Movements Matter Most" in *Religious Experience and New Materialism: Movement Matters*, ed. Jeorg Rieger (New York, NY: Palgrave Macmillan, 2015), 142.

constricting power plays that take place within religious discourse, stating that “this perspective also allows for an awareness of the existence of alternative religious experiences that do not conform to the dominant powers and provides a deeper understanding of the nature and the promise of such experiences.”¹⁸¹ I agree with Rieger that religion is more than, and perhaps in opposition to, an institutionalized set of beliefs and practices that render power not to people but to dogmatic paradigms.

While recognizing the ways new materialism breaks down some of the power-plays at work in society, Rieger still critiques the lack of anthropocentrism in new materialism. To his credit, he does so in the name of the oppressed, but what he fails to recognize is that the move to biocentrism does not require that we forget about or ignore socio-economic issues. Biocentrism requires that we view social issues within the larger framework in which they are taking place and that we consider the other bodies and agents that are at play. It is foolish to think that people can and will save the earth; the real effort is to save people and to do it in a way that is the least harmful to the least number of bodies—that is our best hope. The shift to ecocentricity is itself a selfish one. The only way that we can save our “selves” and appropriately respond to the social issues Rieger is concerned with is to take an ecocentric approach because of the deeply entangled web of oppressed matter that these issues flow from. According to a new materialist ethic the highest hope for humans to save our “selves” is to let go of ourselves and come to terms with what we are—participants in Gaia. In order to live on the earth that humans have transformed into something that may potentially be unsuitable for humans, especially at current population levels, people must let go of human exceptionalism.

¹⁸¹ Rieger, “Rethinking the New Materialism for Religion and Theology,” 142.

Building on the claims of emergent system sciences, new materialists emphasize the dynamic unrest of matter even when, at first glance, matter appears to be inert. Jane Bennett refers to this dynamic unrest as vibrancy while Rosi Braidotti recognizes that the energy flow and movement of materiality leave room for the residuals of spirituality.¹⁸² Diana Coole & Samantha Frost state that in the ontology of new materialism “there is no definitive break between sentient and nonsentient entities or between material and spiritual phenomena.”¹⁸³ New materialism is monistic, but it does not require the denial of the religious altogether; rather, in opposition to bifurcating ways of thinking, the new materialist ontology holds that there is no oppositional distinction to be made at all. A major implication of this ontology is that any sort of spirituality that might emerge is immanent and not transcendent—what one might call “spirit” could be an energy flow that emerges from within the matter itself.

A new materialist theory of religion recognizes the deep and vibrant interconnectivity of matter itself. Interpreting the results of epistemologically improved scientific practices, the new materialist must recognize matter for what it is—a constantly changing entity that takes many forms in response to intra-actions across matter-energy flow. While there is no space for a transcendent god or divinity, the recognition of a deep flowing and transforming interconnection between material things on this earth and beyond it is prevalent in new materialist thought in the same way that Gaia theory resists deification but begs for some type of religiosity embedded into relationships between embodied agents.

¹⁸² Dolphijn and Tuin, *New Materialism*, 31.

¹⁸³ Coole and Frost, *New Materialisms*, 10.

Material Bodies and Meaning

Even during the linguistic turn, the body has always been at the center of feminist discourse. The form of the body has been the defining mark that deems someone to be female or not. Gender is assigned based on the presence or lack of a penis and upon this assignment one is sentenced to either the upper echelons or the underside of humanity because of the structures of society that privilege the male over the female.¹⁸⁴ Whether or not these assignments are socially constructed, they have immense material consequences and are based on *prima facie* material form. It is these material foundations that make new materialism an inherently feminist project.

As Braidotti explains:

Feminist philosophy builds on the embodied and embedded brand of materialism that was pioneered in the last century by Simone de Beauvoir. It combines, in a complex and groundbreaking manner, phenomenological theory of embodiment with Marxist—and later on poststructuralist—re-elaborations of the complex intersection between bodies and power.¹⁸⁵

The project of feminism is and always has been about bodies and power and since one cannot have the emancipation of women without the emancipation of bodies, new materialism is, in a sense, an expansion of the feminist project to include all forms of material bodies and the politics between them.

As ecofeminists have been purporting for a couple decades now, the oppressive structures that subjugate women, the earth, and other bodies are the same even though the forms and experiences of oppression vary greatly. It is for this reason that ecofeminism was developed—the systems of oppression are webbed and entangled together and the only way to break through the

¹⁸⁴ As mentioned above, the structures of oppression are entangled so there are added dynamics of culture, race, socio-economic heritage etc. that impact one's places and opportunities in one's given society. For example, a white female in the middle-upper class will in most cases in the U.S. receive more privilege than a black person, male or female.

¹⁸⁵ Dolphijn and Tuin, *New Materialism*, 21.

web is to approach it holistically. New materialism provides another space for this very material web to be untangled because it insists that if there is value it is in matter—it is in the very things at the bottom of every binary and hierarchy created and upheld in Western thought and society. Women have been ranked among the lower elements of binary divisions and categorized along with the body, matter, and earth while in a patriarchal ideology men are aligned with brain, reason, and the transcendent. The elimination of these categorizations has been one of the main goals of feminism; thus, “the emancipation of mat(t)er is also by nature a feminist project.”¹⁸⁶ Material feminists are working to dismantle binaries altogether, pointing out that the brain is matter, reason is an emergent property of the body, and denying the transcendent altogether. Feminist scientists, particularly Haraway and Barad, have laid the groundwork for new materialism by recognizing science as a subjective practice and providing a cutting-edge physics that serves as the fertile soil for the growth of new materialisms. In opposition to mainstream science, Haraway and Barad have refused the lens of the Enlightenment and look at science as an interdisciplinary and subjective practice that is always ongoing.

Feminist scientists have laid the foundation for the physics/metaphysics of new materialism, as well. The two major figures, Haraway and Barad, provide the science to support the theories and practices of new materialism. Haraway provides a necessary critique of the sciences, one that Barad builds upon in her discussion of Bohr’s two slot experiment. What Haraway and Barad assert in different ways is that a person can only find results and observe phenomena that one’s measurements and ability to measure allow. Haraway remind us that “[w]e both learn about and create nature and ourselves.” Science is far from an objective practice; as Haraway points out in her analysis of primate studies, it is very much informed by culture. If one

¹⁸⁶ Dolphijn and Tuin, *New Materialism*, 93.

assumes that male sexual dominance is “natural” and looks to nature to prove it, one will probably find evidence to support the assumption. Further, what one *can* see is limited by what one knows and what one measures.

The revival of matter in new materialism gives weight to the emphasis on bodies in feminism. As Colebrook articulates, “When feminists turn to vitalism today, they do so with a full sense of the exhaustion and limits of the linguistic paradigm. The idea that the world is constructed through language merely repeats a centuries-old privilege of the formal and logical over the material (Gatens 1996).”¹⁸⁷ Through a return to the material, a place for actual bodies, and not just performing bodies, has been made once again in feminist scholarship. Current material feminists acknowledge that bodies are an interplay of raw materiality and cultural performance, and that the influence goes both ways. Refocusing on the matter at hand paves the path for the recognition of the interdependence of all bodies and the need for material liberation and not only linguistic or cultural liberation.

The expansion of the feminist project to include all forms of bodies, particularly earth-bound bodies, is not new. For a long time, ecofeminists have recognized the umbrella of patriarchal and hierarchal societies as the source of oppression for women, animals, the earth, indigenous communities, and racial minorities. Further, and more importantly, ecofeminists recognized the ways in which these forms and experiences of oppression are not isolated but, to the contrary, are part of an intricate web and must be addressed as such. As we saw in the first chapter, ecofeminists were accused of being essentialists because some ecofeminists recognized the ways in which women were identified with matter, body, and all things earthy. Some

¹⁸⁷ Clare Colebrook, “On Not Becoming Man: The Materialist Politics of Unactualized Potential,” in *Material Feminisms*, ed. Stacy Alaimo and Susan Hekman (Bloomington, IN: Indiana University Press, 2008), 52.

ecofeminists still contend that due to cultural constructs and gender roles, women actually were and are in contact with and impacted by their larger physical environment more, but this is not related to anything essential about women. Alaimo and Hekman note, “Environmental feminists have long insisted that feminism needs to take the materiality of the more-than-human world seriously.” However, mainstream feminists have pushed ecofeminists to the back, “fearing that any alliance between feminism and environmentalism could only be founded upon a naïve, romantic account of reality.”¹⁸⁸ To the contrary, it is the impending environmental crisis that has created a renewed interest in ecofeminism. The science that new materialism is based on supports what ecofeminists have been saying all along—*all* bodies, including women’s bodies, are on and of the earth.

Many of the leading thinkers identified with new materialism are feminists or, at the very least, rely on work feminists have done. Thus, feminist thought has played a large role in shaping new materialisms of all currents. In turn, new materialism provides a platform for combating the linguistic turn within feminist discourse and redirects the focus to real material bodies that are both embodied and embedded in a world of constant transformation and material exchange—which makes it the perfect ontological foundation for ecofeminist moral frameworks.

PanAgency

Bodies themselves are collections of material components working together as an open system. The material within the body is being sloughed off, moved, exchanged, and consumed. As Bennett illustrates: “In the eating encounter, all bodies are shown to be but temporary congealments of a materiality that is a process of becoming, is hustle and flow punctuated by

¹⁸⁸ Alaimo and Hekman, *Material Feminisms*, 4.

sedimentation and substance.”¹⁸⁹ Consumption is a clear-cut example of the material exchange constantly at bay between bodies; the cycle of consumption and excretion best illustrate that beings are not isolated individuals but, rather, a collective of bodies consisting of and encompassed in other bodies.

Bruno Latour defines an actant as “a term from semiotics covering both humans and nonhumans; an actor is any entity that modifies another entity in a trial; of actors it can only be said that they act...”¹⁹⁰ In sum, an actant is a thing that can be influenced by and influence other things. New materialists attribute all matter with this property. An actant does not require that a thing thinks or necessarily chooses its actions, but influences and responds, nonetheless. Every body is an actant which means that each one, from Margulis’ microbes to Gaia as a whole, is a panagential system; the inherent relationality of matter means even the smallest microbes are panagential systems.

Despite the experience of a unified self, the self as body is in a constant state of unpredictable material flux. The only difference between a rock, a dead chicken, and a living human is time; the former two may appear inert but atoms are migrating in and out of crystals within the rock’s body, and the tissues of the chicken’s body are breaking down rapidly as the once united system of agents breaks down, disintegrates, and transforms into other forms of things and beings. The lively human body is undergoing similar processes of transformation; for example, through the process of apoptosis which entails cells killing themselves off when they are no longer necessary. Acting out their own agency, the cells of a body compose and are

¹⁸⁹ Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010), 49.

¹⁹⁰ Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge, MA: Harvard University Press, 2004), 237.

composed by one another. Each body is moving through a different stage of the material continuum but never stagnant; like the fallen tree I encountered at Jay Cooke State Park disintegrating into the soil on a path, the lines drawn between bodies that were once thought to be impermeable and clear-cut are made arbitrary in time. What remains consistent is the panagential exchange of material transformation that composes unified and relational systems.

The figure that was once a perceptively distinct tree was in the process of becoming part of the forest floor that nourished it for so long. While the tree seemed to be distinct from a previous perspective, there was never really a time when the tree itself was not in a state of transformation and exchange with other things around it. Time serves as the vehicle through which we observe and experience transformation, but Barad argues that time is only experienced as a measurement:

Being attentive to ways in which we are re-doing, with each intra-action materially re-doing the material configurings of spacetime-mattering. The past and the present and the future are always being reworked. And so that says that the phenomena are diffracted and temporally and spatially distributed across multiple times and spaces, and that our responsibility to questions of social justice have to be thought about in terms of a different kind of causality.¹⁹¹

Thus, the lines drawn between things valued and things disvalued based on transient boundaries are unveiled as cultural constructs when one invites the past, present, and future into the conversation of material ethics and body politics. What people experience as unified individual bodies, whether they are perceived to be in a non-permanent state of “alive,” “dead,” or “inorganic,” are far from individual and far from unified; material bodies have the power to influence one another and are a constant exchange of one another.

¹⁹¹ Dolphijn and Tuin, *New Materialism: Interviews & Cartographies*, 68.

Each body has the potential to change the course of other things; that is the core essence of matter—that it acts as a force on other things. Without this material inter-activity nothing would be. Matter is a powerful thing; each material manifestation, no matter how big or small, has the property of acting with and on other material manifestations. Recognizing that all material things have the power to influence other things and that matter is non-mechanistic restores much of the power to matter that has been ignored in Enlightenment thinking and the linguistic turn. One could even say that to exist is to materialize and to materialize is to act, there is nothing that exists that does not exist in an agential relationship with other things.¹⁹² There is nothing about matter that is stagnant or isolated which means that ethics is the business of mattering together.

Ethics

When one considers the extent of the interdependence of things, especially living things, on other “outside” things, it is easy to see that the idea of a *particular thing* in and of itself is nothing more than a limitation of subjectivity informed by cultural outlooks that influence experience. Vital to new materialism is the assertion that all things compose and are composed by assemblages. In other words, apart from other things, there would be no things, even down to the tiniest measurable thing. Bennett puts it this way: “While the smallest or simplest body or bit may indeed express a vital impetus, conatus or *clinamen*, an actant really never acts alone. Its efficacy or agency always depends on the collaboration, cooperation or interactive interference of many bodies and forces.”¹⁹³ Bodies themselves are assemblages of material exchange which

¹⁹² It is important to note the difference here between Judith Butler’s idea of “performativity,” which is an important concept for the linguistic turn and what the new materialist considers “acting.” For Butler, to perform is to embody a linguistic or culture concept. For the new materialist, to act is to affect.

¹⁹³ Bennett, *Vibrant Matter*, 21.

means, as Melissa Orlie states, "...we are not sovereign. The stuff of which selves are made is impersonal because the matter of which they are born and made does not begin with us nor is it ever possessed or controlled by us."¹⁹⁴ There are agential interactions that occur unbeknownst to us in the very material that composes our bodies. All things, including one's thought, are limited by the collective and emergent properties of the material one is made of and the culture that influences the way one makes meaning of those experiences. That being said, for the new materialist this is an empowering statement rather than a disempowering limitation that reduces bodies to the sum of their parts. To see one's "self" as a body constantly transforming in a web of other bodies is to recognize what one is rather than to disempower and belittle what it is to be human in relation to others.

New materialism requires the consideration of matter as an active force in the shaping of culture and economy (and vice-versa) which would entail an intense restructuring of global politics and economic distribution. It would require that policy be directed towards assemblages rather than individuals because new materialism reveals individualism to be a myth. A new materialist politics would also require that relational ontologies shape policy, so when forming policy, networks of impact would have to be understood rather than assuming a linear causality to flow forth. Barad contends that "What is needed is a robust account of the materialization of *all* bodies—'human' and 'nonhuman'—including the agential contributions of all material forces (both 'social' and 'natural')." What Barad herself offers towards this effort is "a new account of matter's dynamism, that nature of causality, and the space of agency, as well as a *posthumanist*

¹⁹⁴ Melissa Orlie, "Impersonal Matter," in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (London, England: Duke University Press, 2010), 122.

elaboration of the notion of performativity.” New materialist politics starts with the material bodies that the polis is comprised of, including the bodies that are not currently in human form.

What makes new materialism “new” and more conducive to an ecological worldview is that it portrays the material world as emergent and agential rather than mechanistic. According to new materialist metaphysics, matter is in the business of *mattering*. Not only does the material world matter, but it is the only setting for the construction of value. As Barad writes:

Ethics is about mattering, about taking account of the entangled materializations of which we are a part, including new configurations, new subjectivities, new possibilities—even the smallest cuts matter ... ethics is about accounting for our part of the entangled webs we weave.¹⁹⁵

As members of the material world, humans impact one another and other material agents, which affect humans in return. Together, humans and other material agents are a system of matter and energy exchange, so agency entails the ability to impact the material system as a whole

All bodies are earth bodies. People are systems of matter that function together from which properties emerge that may not have been present along the breakdown of components. Traditionally, standards for moral consideration have been set by human likeness and that which made up “humanness” was conscience, reason, a soul, etc. However, new materialism requires that one see the human as an agential system functioning through the exchange and transformation of matter and energy, much like other systems that are in a state of “living,” “dead,” or “inorganic.” While some might scoff at the idea that moral consideration ought to be given to material systems, new materialism requires this extension of consideration if one is going to maintain that humans deserve moral consideration.

¹⁹⁵ Barad, *Meeting the Universe Halfway*, 384.

One of the driving forces for new materialisms is the age of environmental catastrophe that is currently upon the earth. As a result of monist commitments, new materialists contend that the earth we are living on is the one and only hope humanity has for life—there is no utopian kingdom waiting for us beyond this life. Bodies will continue to participate in the matter-energy exchange long after humans are gone but the only hope for the earth to continue to sustain particularly human life is to remove ourselves from the center of belief, understanding, and action. New materialisms require that matter become the locus of value and that the agential power of all things is recognized and considered; if it is matter that holds value, then all the things must matter and do so in a web of being. Thus, to consider the value of particularity is to consider the value of the whole and vice versa.

Perhaps the most de-centering aspect of new materialism is the claim that humans are not all that different than other bodies in different stages of being. Living humans, like dead chickens and rocks, are panagential, material systems. All things are composed of earth particles that were once star particles that were once a part of the beginning of what we now experience as space and time. In Bennett's words, "This same-stuff claim, this insinuation that deep down everything is connected and irreducible to a simple substrate, resonates with an *ecological sensibility*, and that too is important to me."¹⁹⁶ However, Bennet argues that her ecological sensibility differs from that of deep ecology because it is not universally or harmoniously unifying; rather, it acknowledges the turbulence of moving matter.¹⁹⁷ What this means is that even if matter is what matters, de-centering human ethics and politics, the particular manifestations of matter in space

¹⁹⁶Bennett, *Vibrant Matter*, 10.

¹⁹⁷ Bennett, *Vibrant Matter*, 10.

and time are also significant because they shape the consequences of material agency. The ways in which particular things materialize are significant.

New materialisms emphasize the instability, power, and movement of matter as opposed to its stability, predictability, and adaptability. This is a recognition that material does not follow principles of reason or ideal form, as evidenced by human behavior or the transition from design to construction. The active nature of matter, which Bennett deems a “vibrancy” and others call “vitality,” causes one to recognize anew the relationships between humans and other material bodies. This is significant, as Bennett expresses:

Because my hunch is that the image of dead or thoroughly instrumentalized matter feeds human hubris and our earth-destroying fantasies of conquest and consumption... The figure of an intrinsically inanimate matter may be one of the impediments to the emergence of more ecological and more materially sustainable modes of production and consumption.¹⁹⁸

Bennett’s insistence on movement as an intrinsic characteristic of matter demands disruptions from anthropocentric and biocentric metaphysics, shifting the focus from forms of life to the matter that manifests life.¹⁹⁹ For Bennett, vibrancy is a property of matter, not a supplemental animating force; while raw human senses may assume matter to be inert at first glance, encounters with matter make clear that it pushes back, maintaining a vibrancy of its own. Material manifestations, whether currently manifesting life or not, are active participants in the constitution of reality. Agency does not belong to life alone, and so things both lively and seemingly at rest are political actors. Building on Dewey’s “theory of the public and conjoint action,” Bennett points out the permeability of the boundaries between human-nonhuman political action, arguing that nonhuman political actants have been present and active throughout

¹⁹⁸ Bennett, *Vibrant Matter*, ix.

¹⁹⁹ Bennett, *Vibrant Matter*, 61.

history, thus calling for reflection on the subjects of democracy which were presumed to be humans alone. Bennett reveals the political ecology of things to which humans belong, begging us to broaden the scope of democracy.²⁰⁰

How people conceive of the material world around them influences how they relate to it. For example, if people believe that animals are mechanistic creatures with little ability to feel pain or experience pleasure and certainly no ability to think or act beyond acting on instinct, it is much easier to justify turning them into objects of production for human consumption. However, if one recognizes that animals are creatures with their own particular sensibilities, experienced lives, relationships, pleasures, and pains, it is nearly impossible to justify treating them as objects of production for human consumption. Likewise, if one views the earth and things on it as an inanimate location for human domination and flourishing, it is easy to justify using it for any means possible to build human society. Otherwise, if one understands the earth to be an animate material system composed of various other systems of material-energy exchange, of the same composition as humans, it is much more difficult to justify destroying and altering the system in such grand ways that makes it difficult for other intrinsic systems, including human ones, to persist. The balance of life is both fragile and persistent. If one conceives of humans in our material existence, one must extend political and moral consideration to other material bodies because of the inherent relationality of material existence thus shifting morality and politics from anthropocentrism to ecocentrism.

A major shift in calculations of material exchange must occur in order for humans to have any hope for a just future, and a new materialist economy would require major recalculations. Economy must be modeled and muddled with ecology under new materialism.

²⁰⁰ Bennett, *Vibrant Matter*, 108-109.

Both systems, which are currently considered to be related but distinct, involve the constant flux of material exchange and transformation. Economy under new materialism ought to have a focus on engaging with the ecosystem as lightly as possible rather than with an aim to equalize the economic status of peoples. Practically speaking, “[c]ombining ecology and economics is a good idea, so that a barrel of oil is not valued only in terms of its market price but as a non-renewable source of value due to the energy it contains.”²⁰¹ With a change in focus, people and other beings should have access to the resources necessary to *thrive* amidst the material assemblage of the ecosystem and to participate in the system in a way that allows all to thrive. If people were to limit their use of resources to what is necessary there would be less conflict over resources because, rather than believing individual people can possess property, the fundamental relationship stands upon people belonging to the earth.

If we shift the focus from human survival to finding our niche, we might actually survive. We are indeed entering the Anthropocene: a world that has been created through destruction by humans. Rather than asking how we will survive in the Anthropocene we should be asking how we move through this stage and into an eco-cene. In order to do so, ecology must become the setting for economy, politics, and ethics. A major implication of the significance of difference in new materialism, and ecofeminism, is that responsibility for climate change does not fall upon the human species as a whole. There are different ways that people have related and continue to relate to the earth and these differences will require different responses and responsibilities to one another, to local ecosystems, and to the earth-system in its entirety. One of the primary implications of this is that the consequences of environmental degradation should not be allowed

²⁰¹ Dolphijn and Tuin, *New Materialism*, 41-42.

to fall primarily on those who have contributed the least to climate change because the relational history of agents must be considered.

The major contributions of new materialisms to shaping dynamic moral ecology are the language and value of agency, and therein lies a thing's propensity for moral worth. Rather than being a component of an individual's character, in a new materialist ontology the location of morality is in relationships. With the locus of power being over others, Westerners may find themselves asking where to start or where to go. Something else we can learn from history is that the real locus of power, the vehicle of transformation, is centered in the body. Through the body, the relational power of action can work towards transformation because:

... every time any entity whatsoever has to extend itself, it has to pay the full price of its extension. Which is another way of saying that it has a history. In other words, the members of these peoples would no longer feel that they are living under a globe, but in the middle of relations that they have to compose one by one without any means of escaping historicity.²⁰²

Latour continues to illustrate these newly conceived of connections with the shared experience of *earthboundness*. It is here in this earthboundness that we find our bodies and our being, which is characterized by our agency in relationship to others. Relationships amongst bodies and things comprise the emerging system of agency and the center of morality. As morally conscious beings, humans have the responsibility, and the power, to direct our agency towards creating relationships that allow the system of beings we are part of to flourish or not.

²⁰² Latour, *Facing Gaia*, 181-182.

Chapter 4: An Ecological Ontology of Panagentialism

To have risked so much in our efforts to mold nature to our satisfaction and yet to have failed in achieving our goal would indeed be the final irony. Yet this, it seems, is our situation.

—Rachel Carson, *Silent Spring*

An ecological ontology of panagentialism forces one to think about ethics concretely. Rather than an appeal to higher principles or a life of ultimate happiness, one must face material realities and recognize the limited options and potential consequences of agential expressions. Ecofeminism enlightens the history of agential relationships. As agents in community with other agents, we cannot approach ethics as if we are spiritual lifeboats making decisions for the betterment of our selves. Rather, we are material bodies in relationship with limitations and potentialities. The exercise of agency, which one cannot avoid since it is inherent to material being, has impacts far beyond one's body and far beyond the human community, reaching all the way to the atmosphere, the outer limit of Gaia's body.

Religion is a real and concrete experience that involves material practices that influence, inform, and construct relationships between material bodies. As such, it is anything but false for the new materialists and Gaian scientists alike. Religious experience is rooted in transformative material intra-actions; it is an encounter that has the power to drive agency in one direction or another—a driving force for humans as moral beings, as suggested by new materialist thinkers in the previous chapter. Even Latour, despite his best attempts, struggles to totally secularize Gaia; an encounter with Gaia is awe-inspiring and transformative. Thus, Gaia is rendered sacred—a figurehead of religious experience worthy of reverence. Particular beliefs, or vantage points from the perspectives of situated knowledges, about Gaia as religious vary; the position I hold from a

body that is historically religious is non-theist. Though non-theist, the language of religion is useful to ground the worldview that is shaped by the forthcoming ecological ontology of panagentialism because it does serve as a driving force for deep transformation of the symbiotic relationships we compose in mutual agency.

As the scientific study of interactions and relationships between organisms themselves and their environments,²⁰³ or “the science that studies the marvelously complex interrelationships of life forms on planet earth,”²⁰⁴ ecology is the material context for morality. Humans are unique in the development of morality; humans are capable of being aware of the far-reaching consequences of actions and are able to make decisions based on this awareness, thus the need for ecological ontologies that expand the bounds of morality from the construct of human societies outward to intra-actions between Gaia’s many agents. By thinking together ecofeminism, Gaia theory, and new materialism, an ecological ontology of panagentialism emerges and has the potential to keep ecofeminist frameworks from falling into the same traps as the dominating Western paradigm. I will characterize this ontology through identification of major nodes of ecofeminism, new materialism, and Gaia theory: matter, symbiosis, agency, holarchy, and emergent systems. A node is both a crossing of paths and a point from which new trajectories emerge; it is in the five point of intersection identified in this chapter that an ethic of embodied agency, developed in the following chapter, is rooted.

²⁰³ Michael Cain, William Bowman, and Sally Hacker, *Ecology* (Sunderland, MA: Sinauer, 2008), 8.

²⁰⁴ Ernest Callenbach, *Ecology: A Pocket Guide* (Berkeley, CA: University of California Press, 1998), 1.

Matter

As earth-bodies with the ability and responsibility to consider the far-reaching consequences of our actions, humans are uniquely moral material agents in relationship to others; humans are not moral beings because we are unlike other beings within Gaia, but because humans are interconnected with other material earth-bodies. Thus, morality is inherently relational and material. The move from a dualistic metaphysics to a new materialism calls for a contextualized ethics of earth-bodies within Gaia where we have previously understood moral behavior mostly in terms of human society. As members of a larger, moving material system, we must, as Gaian scientist Tyler Volk argues, attend to the cycles of matter.²⁰⁵ Doing so makes us agents not of liberty, but animate agents bound together in a system with other agents, both animate and inanimate. What Volk means by this is that we have to consider the movement of matter, so while he claims this attention to matter as a Gaian directive, it is a new materialist commitment as well.

Bennett argues that the images and understanding of matter that have dominated Western society, that it is to be used by and for humans, perpetuate a fantasy of domination and consumption—myths that must be true for capitalism to work. She says “It does so by preventing us from detecting (seeing, hearing, smelling, tasting, feeling) a fuller range of the nonhuman powers circulating around and within human bodies. These material powers, which can aid or destroy, enrich or disable, ennoble or degrade us, in any case call for our attentiveness, or even ‘respect.’”²⁰⁶ What she implies is that by assuming the non-agency of matter, we are doing a disservice to both ourselves and the material bodies that we act in, with, and around. Matter is the vehicle of transformation and has a transient property that equalizes bodies in all forms, as

²⁰⁵ Volk, *Gaia's Body*, 23.

²⁰⁶ Bennett, *Vibrant Matter*, ix.

established in both ecological and new materialist understandings of the self in previous chapters.

The attention to material cycles is not new; whether acknowledged or not, our bodies have always been a part of a moving material cycle. As Ruether highlights:

The material substances of our bodies live on in plants and animals, just as our own bodies are composed from minute to minute of substances that once were parts of other animals and plants, stretching back through time to prehistoric ferns and reptiles, to ancient biota that floated in the primal seas of earth. Our kinship with all earth creatures is global, linking us to the whole living Gaia today.²⁰⁷

The newness comes through recognizing the material relationships Ruether illustrates as the context in which we are, as humans, moral beings. In addition to the participation in trophic cycles, an ecofeminist perspective keeps morality grounded in the materiality of history—the actual and not the idealized kind. For example, while the process of desegregation started in principle in 1955, Dorcetta Taylor points out that segregation persists through means such as housing discrimination, predatory lending, and white flight, especially in northern states.²⁰⁸ By attending to the cycles of matter, in this case moving human bodies, one finds that while the principle has changed, the material organization and categorization have not. If one looks more closely at the cycles of matter, one also can see hazardous waste facilities alongside communities of color, only to have the material removed and the formerly polluted places cleaned up as the spaces are prepared for gentrification.²⁰⁹ A wrong is not made right by altering a law or a principle; morality must manifest materially.

²⁰⁷ Ruether, *Gaia & God*, 252.

²⁰⁸ Dorcetta Taylor, *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility* (New York, NY: NYU Press, 2014), 266-269.

²⁰⁹ Taylor, *Toxic Communities*, 33.

This commitment to materialism draws attention to material consequences of actions. For example, if one considers the act of gentrification one must not only consider the carbon emissions one may save by moving closer to work, but the displacement of bodies previously inhabiting urban centers who were themselves living in close proximity to their work. Thus, while the carbon savings may be gained from an individualized perspective, attending to the material cycles disrupted by the movement shows that there may be no net carbon savings as the people shoved out of the inner-city must now commute which is an addition to the injustice done to displaced bodies.

Symbiosis

Margulis' major contribution to Gaia theory was her work on symbiosis. In addition to the major ramifications her work on symbiosis has for the sciences, there are some major ontological implications of symbiosis, as well. Margulis's work on both symbiosis and feminist new materialist developments of relational ontology points to the relational nature of being. Not only do things exist in relationship to one another but it is through relational exchange of material things that there is existence, as evidenced by ecological beginnings. Everything on earth became, is, and will be because of a deep and complex relationality that is the foundation of being.

As evidence for the symbiotic nature of being, LaDuke pointed to the damage done by white colonizers to the local ecosystems, which can be identified as a parasitic symbiotic model of relationship—the *Gylptapantales* wasp of human form. In the process of what she deems “recovering the sacred,” Laduke essentially offers a call to reconfigure the symbiotic relationships Western peoples have developed with our surroundings to be mutualistic rather than parasitic. Recognizing the symbiotic nature of being requires an analysis of the different

types of relationships that are possible; relationality itself is not inherently good. Symbiosis acts as a node of an ethic of embodied agency because it requires recognition of the inherent material relationality of being, analysis of the nature of relationships, and a vision for transformation to mutualistic models of relationship. Guided by Anderlini-D'Onofrio's conceptualization of symbiotic reasoning, explored in Chapter 2, the agential power held by humans can be understood within the context of the symbiotic nature of being. Symbiotic reasoning can help humans to adapt towards mutualistic relationships within Gaia in the hope of flourishing rather than destroying the material context humans dwell within.

While Gaia might be a tough bitch, as Margulis so eloquently states,²¹⁰ the human species and other collections of beings within Gaia are less so. The driving moral narrative in response to climate change can no longer be characterized by humans saving the earth—we must do away with the illusion that Gaia is a damsel in distress and Westernized humans are riding to her aid on white horses. The moral challenge is for humans to adapt in ways that are more just than our history reflects us to be, and to widen our understanding of justice to incorporate the whole body of being, Gaia's body, because that is the only way justice is possible. Justice here is not reflecting a transcendent ideal, but a material relationship amongst bodies reflected in a mutualistic symbiotic relational model. Ruether identifies Gaia as the voice that speaks “from the intimate heart of matter,” she continues, “It has long been silenced by the masculine voice... Her voice does not translate into laws or intellectual knowledge but beckons us into communion.”²¹¹ The relational reality of material being calls for a cosmology of connection and adaptation in response to the systemic effects of climate change within the body of Gaia.

²¹⁰ Margulis, *Symbiotic Planet*, 119.

²¹¹ Ruether, *Gaia and God*, 254.

Agency

The relational nature of matter is because of the agency that is inherent to matter; relationality requires movement, exchange, and transformation. What we can know from Gaia is that life did not evolve alone but life and the environment have functioned together as a system. While Darwin's theory of evolution illustrates the trajectory of various species and links life together, Margulis' contributions illuminate the ways that life evolved as a part of the earth and earth evolved as the whole of life. All of life that persists does so because of the relational agency of material things. Things, living or non-living, are not mere accidents. Rather, things are what have emerged from symbiotic exchanges—the relational developments of matter on earth. Morality only exists in relationship because it is an act between bodies. If a person could act without impact, the act would be morally void. Lahar's and Harraway's charge for recognition of the violence that has been done in the wake of historical disembodiment of knowledge in Chapter 2 calls for people to be held accountable to their agential power.

As evidenced in Barad's argument for agential realism in Chapter 3, agency is enacted amidst the relationships between material things. Where Western epistemologies have gone wrong is in assuming both science and ethics are done in an isolated vacuum when in fact both occur amongst messy conglomerations of beings. I am suggesting that an agent's value lies not in its material being alone, but in the agential power of material being—a power that manifests in relationship rather than isolation. Instead of humans acting upon the environment in a uni-linear direction, humans act within a material system of action; rather than the concern of one-way interactions, Barad's agential realism explains the ways ethics must be concerned with intra-actions which include complex and agential exchanges amongst material beings.

We used to think that species evolved in linear trajectories of being without calculating the way that species impact their environment and are transformed by their surroundings. A species does not find a niche; living beings create niches in partnership with other material agents in proximity to them. Likewise, ethics is not an idealistic framework for being; it is embodied in concrete action that takes place in relationship to other material agents. While not all agents can behave “morally,” their agency has worth in all moral calculations. Generally, things other than human have only been calculated insofar that they either think, feel, experience, or are used by humans and not because they are agents. Many humans have also been placed in this category of existing, but not acting, thus furthering oppression by ignoring and diminishing agency.

Power and value do not lie within matter itself but in the agential properties of matter. In a sense, the body matters only in relationship to others because in isolation it would not and could not be. Agency is inherently relational, and matter is inherently agential. While matter in human form might serve as the container for ethics, it manifests and is experienced only in relationship through agency. Thus, as new materialisms claim, all matter holds value because all matter has agency.

Due to the inherent relational existence of life, ecology as a discipline is a study of relationships between living organisms and their environment. The actions of one organism affect and are affected by an organism’s surroundings since, “[n]atural systems are driven by the ways in which organisms interact with one another and with their physical environment.”²¹² The impact one organism has on another is often undetected and unexpected. The belief that the created order is mechanistic and linear is no longer true; organisms are not mechanistic

²¹² Capra, *The Web of Life*, 3.

according to Lynn Margulis and Dorian Sagan: “All are sentient, possessing the internal teleology of the autopoietic imperative. Each is capable, to varying degrees, of acting on its own.”²¹³ As sentient beings, living organisms are impacted by their environment; organisms respond to changing environments in purposeful ways. Thus, while not all organisms have the ability to suffer emotionally in the same ways that humans do, all living organisms experience the impact of and respond to human action. The overarching claim of Gaia theory is that the earth system constitutes the body of Gaia and, as a body, Gaia’s agencies can be seen in the intra-actions between the many inner systems that compose her whole. While I would not extend *moral* agency to other-than-human beings, other bodies certainly do act upon and with us whether they are animate or inanimate. Thus, agency serves as the qualifier for moral consideration. Not just particular bodies, but Gaia as a whole organic system acts toward the preservation of life by maintaining a suitable climate for life—a cosmic nod to the struggle to survive expressed by particular bodies.

Holarchy

To live into the transience of agential material bodies is to accept both the value of the whole and of the particular, so it is important to recognize that the human species does not relate to the earth in all of the same ways. There are some particular bodies that have related to their spaces in ways that crowd others out of theirs. To say it bluntly, those in the Western and developed world have taken up a much larger share of the earth than we should if we are indeed responsible to other particular bodies and the earth system as a whole. Ecowomanist Melanie Harris puts it this way: “We know that most of the waste is not produced by the poor. They are not owners of polluting industries, of nuclear power plants, or of the military headquarters at which wars are

²¹³ Margulis and Sagan, *What Is Life?*, 224.

planned: neither are they the principal consumers of canned and packaged goods.”²¹⁴ Each human is still a moral center in the holarchy, and so we must recognize that different people have different responsibilities and need to adapt in different ways to the places and spaces they are part and parcel of. The material particularities of a body, in shape and place, impact the way one is impacted by and responsible for global change.

Rather than aiming for ideals that are due to individuals, Karren Warren suggests that an ecofeminist ethic can be “[c]onceived as a sort of narrative, a contextualized ethic [which] is a shift from a monist focus on absolute rights and rules to a pluralist focus on various values, principles, narrative constructions and forms of intelligence.”²¹⁵ Following Warren’s charge, we cannot project ideals of preservation onto the future because we are trying to preserve a conception of a stagnant, linearly hierarchical earth that never existed. Rather, “[t]he environmental crisis has helped this shift by making clear the indisputable importance of ecology, which always refers outwards from particulars to larger wholes.”²¹⁶ The crisis itself has brought about an abrupt attention to the fact that humans—all humans—are encompassed by a greater system of life than the systems that comprise our individual bodies.

Within a holarchy beings are interdependent, and as reflected by the concept of symbiosis, physically integrated and embedded within the body of Gaia. In contrast, according to the dominating Western worldview, the human is imagined as a singular being isolated from other beings; this notion is reflected in the ideals of freedom, independence, and individualistic notions of justice that frame Western conceptions of morality. Humans act morally as a part of

²¹⁴ Gebara, *Longing for Running Water*, 3.

²¹⁵ Karen Warren, *Ecofeminist Philosophy: A Western Perspective on What It Is and Why It Matters* (Lanham, MD: Rowman and Littlefield, 2000), 99.

²¹⁶ Midgley, *Gaia*, 14.

culture rather than as a part of nature. Behaving in this way has, quite literally, created the perfect climate for global catastrophe.

I propose, instead, that we consider ourselves to be moral beings in a Gaian context which better reflects the living earth system in comparison to a reductionist mechanistic model of the earth. To shift the map of moral thinking from a collection of human individuals to one grand holarchy that encompasses a living earth system and everything that constitutes it is a grand shift, but it is also a necessary one. As Elisabet Sahtouris writes, within Gaia “[e]very being is part of some larger being, and as such its self-interest must be tempered by the interests of the larger being to which it belongs. Thus, mutual consistency works itself out everywhere in nature...”²¹⁷ If we are, as Sahtouris suggests, both constituted by parts and encompassed by wholes we never act freely or independently and we if consider that every action has consequences within the body of Gaia, then every action that impacts any part of the system must be considered a moral action. This interrelationship between the interests of the self and the interests of the whole is the location of a moral context that might guide us into accepting processes of adaptation because, as Midgley argues, “Wholes and parts are equally real.”²¹⁸ In a holarchic system, the parts and wholes are interdependent just as they are in a human body; without a liver a human body cannot survive and without body a liver cannot survive, either.

Humans do not have the power to control how the earth system will respond or to stop rapid climate change, but it is within our power to live in a way that will allow the earth to continue to be a hospitable place for human life if we adapt along with the earth. As bodies that emerged from the earth it should be no surprise that many of the things that allow the human body to

²¹⁷ Sahtouris, *EarthDance*, Kindle 504-506.

²¹⁸ Midgley, *Gaia*, 27.

flourish are also beneficial for the larger earth body. Far from distinct from nature, we are of nature and of the wild. The water flowing across the body of Gaia is the water we drink, and the soil teeming with life produces the food that sustains our own bodies. Much more than human, we are bodies of and in the living earth system; to act in any other way is to act both against ourselves and against the living holarchy of which we are a part. This holarchy is undergoing constant transformation. In the network of life, bodies are continuously emerging as identifiable particulars as they participate in the life of the earth body as a whole. As humans, we must accept ourselves as transient beings participating in a larger narrative of life that was before us and will continue after us, both as species and individuals. In the ethics of the Gaian self, to participate in the flourishing of Gaia is to participate in the flourish of oneself.

Emergent Systems

Traditional conceptions of matter in the western paradigm are mechanistic, and so the total cannot be greater than the sum of the parts. However, in an ecological ontology of panagentialism a system is emergent and can be more than the sum of its parts, which is why Gaia can be considered a living entity. According to Rosemary Radford Ruether in *Gaia and God*, “even as we take into our spirituality and ethical practice the transience of selves, relinquishing the illusion of permanence, and accepting the dissolution of our physical substance into primal energy, to become matter for new organisms, we also come to value again the personal center of each being.”²¹⁹ As particular bodies along a spectrum of being within Gaia’s body, we must figure out how to act as bodies of an earth that is rapidly changing because of our previous behavior. Understanding the human on a spectrum of embodied holarchies consisting of constantly transforming other wholes, some of which move in and out of other bodies with

²¹⁹ Ruether, *Gaia and God*, 252.

relative ease, transforms the way we understand ourselves as moral beings. If we are moral beings, then we are so as earth-bodies that are constantly adapting within a larger emerging system.

However, as particular beings within a holarchic system, agency is not lost, as Lovelock argues:

I would reply that as a metaphor, Gaia emphasizes most the significance of the individual organism. It is always from the action of individuals that powerful local, regional, and global systems evolve. When the activity of an organism favors the environment as well as the organism itself, then its spread will be assisted; eventually the organism and environmental change associated with it will become global in extent.²²⁰

Like a drop in the ocean, actions of beings ripple out and around through time and space. Power lies in being relational agents rather than isolated souls struggling to rise above our material existence. Whole systems emerge because of, rather than in tension to, the individual and the individual emerges out of and in relation to the whole.

The future of an emergent system ripe with a multitude of agents is undetermined; there are countless possible futures so there is good reason to exercise one's agency with an aim towards a future that is more just and more hospitable. Western humans have acted as a virus in the body of Gaia and the system that has emerged in response threatens life as humans have come to know it. When a habitat changes inhabitants have three possibilities: 1) they can adapt and continue to shape and be shaped by their habitat in new ways, 2) they can move to more favorable conditions, or 3) they perish. The entire system is changing and so it is unlikely that option two is a long-term solution for the human race, especially if some of us continue to act as a virus, raising Gaia's fever. Option three is undesirable for the human species in general, but

²²⁰ Lovelock, *The Ages of Gaia*, 239.

possible. Thus, option one seems the best pathway to actively pursue in hope of human survival and earthly flourishing.

Conclusion

Our bodies are matter, and so what we do with them matters—to the planet, to other bodies, to future bodies, and to our own bodies; how we move through the world and how we are moved by the world emerges from and is constrained by the particularities of our bodies. In the American dream, money serves as the vehicle for power and agency, displacing the true locus of power, ethics, and action away from the body. An ecological ontology of panagentialism requires that we come to the full realization of what the white-hetero-patriarchal system tried to make us forget—that bodies hold the power and are the place from which agents are in relation to other beings. In the next chapter I will offer principles of an ethic of embodied agency that emerge from the nodes of an ecological ontology of panagentialism in order to give shape to a possible future.

Chapter 5: An Ethic of Embodied Agency

We do not have thousands of years to unlearn the wrong patterns that were established over thousands of years. The exponential speed-up of these cumulative patterns of destruction means we have to both learn new patterns and put them into practice on a global scale within the next generation.

-Rosemary Radford Ruether, *Gaia and God*

In agreement with ecofeminists on the problematic features of the dominating western paradigm, I explored the ways that ecofeminists have been at risk of falling into the same patterns due to lacking an ontology that offers new tools for constructing a way forward in Chapter 1. Ecofeminists that pursued Gaia theory as a partial solution to this issue were moving in the right direction, but ecofeminist uses of Gaia were largely tied to a thea-fication of Gaia. Thea-fication of Gaia in conjunction with Gaia theory is problematic because it keeps open the possibilities for a bifurcated, universalized, hierarchical, and individual based ontology. Such an ontology does not fit with Gaian sciences, as I demonstrated in Chapter 2 by providing an overview of Gaian sciences along with implications of Gaia theory that transcend the boundaries of science. I proposed new materialism as a better ontology to think ecofeminism and Gaia theory together in Chapter 3 because it allows for a panagential ontology that better reflects both ecofeminist commitments and Gaian sciences, as I illustrate in Chapter 4 by highlighting key characteristics of an ecological ontology of panagentialism. Now that I have established the key characteristics of an ontology well-suited for the foundation of an ecofeminist ethics, I will propose principles that form an ethic of embodied agency. The principles are grounded in an ecological ontology of panagentialism and are meant to serve as a guide to the formation of ongoing processes lived in response to climate change.

My position on ecofeminist ethics is that we must move towards an ethic of embodied agency and away from moral frameworks constructed against a backdrop of a dualist, universalized, hierarchical, and consumer based ontology. I will begin with a brief overview of ecofeminist ethics in order to demonstrate the necessity and shape of ecofeminist moral frameworks. I will then propose and explain the principles of a reformed ecofeminist ethic that emerge from the triangulation of ecofeminism, Gaia theory, and new materialism. The proposed ethic of embodied agency is: based on situated knowledges, historically conscious, ecocentric but anthropogenic, mutualistic, and adaptive.

Ecofeminist Ethics

Looking forward, ecofeminism can provide a framework for the development of moral responses to global change with one eye looking back at the colonial roots of the crisis and one eye looking forward towards ecological justice. In this section, an ecofeminist will give shape to the formation of an ethic of embodied agency. By examining the frameworks developed by other ecofeminists, I derive principles that are entangled with the new materialist ontology I explored in Chapter 3 and the moral implications of Gaia theory in Chapter 4. The ecofeminist principles I propose are based on foundations of ecofeminist ethics reflected in the work of Vandana Shiva, Cynthia Moe-Lobeda, and Karen Warren.

While many ecofeminists use the discourse as a means to critique the current dominating paradigm, others push further by constructing alternatives based on ecofeminism. For example, Vandana Shiva builds off of the idea of an “earth democracy” which “allows us to reclaim our common humanity and our unity with all life. Earth democracy relocated the sanctity of life in all beings and all people irrespective of class, gender, religion, or caste.”²²¹ Relying on ecology as a

²²¹ Shiva, *Earth Democracy*, 8.

discourse for understanding the global systems that have developed in addition to social sciences, Shiva discovered and enhanced an inclusive framework for embodying political relationships between particular humans and other bodies.

In *Earth Democracy*, Shiva proposes a system of values and commitments that ought to shape the governing of communities in ways that are inclusive of all life that interacts with each community. She proposes “Principles of Earth Democracy” that reflect democratic and environmental commitments:

All species, peoples, and cultures have intrinsic worth
The earth community is a democracy of all life
Diversity in nature and culture must be defended
All beings have a natural right to sustenance
Earth democracy is based on living economies and economic democracy
Living economies are built on local economies
Earth democracy is a living democracy
Earth democracy is based on living cultures
Living cultures are life nourishing
Earth democracy globalizes peace, care, and compassion²²²

Shiva’s principles project a vision for an open and moving conversation that may not manifest in the same ways in all places. Biodiversity is a sign of a healthy ecosystem, and Shiva’s commitment to local and global difference reflects the need for diversity in a healthy system of life. While I disagree with Shiva’s essentialization of women as being the sex more in tune with nature based on the principles of purusha and prakriti, because it upholds a bifurcated ontology that has been problematic in the West, I agree with the way she sets forth a vision for balance and harmony that requires forms of difference. Rather than valuing the individual as an isolated figure, she juxtaposes individual beings in relation to the larger species and cultures they are a part of, not favoring one over the other. Further, Shiva’s commitment to living economies is a

²²² Shiva, *Earth Democracy*, 9.

shift in power that Westerners ought to embody—a shift from power in the form of consumerism to power as a participant in the interrelated systems of life—the power of the body.

Identifying three different economies—the market economy, nature’s economy, and the sustenance economy—Shiva argues that the reason poverty grows with wealth is the focus on a market economy. The bodies, lives, and resources that build the market economy essentially become invisible to a disembodied market economy, allowing violence and oppression to be hidden away.²²³ Pointing to corporate personhood as a major villain in the shortcomings of the market economy, Shiva suggests that Earth Democracy includes a shift to a focus on nature’s economy and a sustenance economy to bring justice to all involved in the economy.

Despite their etymological roots, ecological and economic interests are at odds with one another; the market economy demands that the natural economy (ecology) bend to its myth of infinite growth while the ecological processes of production and reproduction cycle on their own time and value scales.²²⁴ As the mediatory economy between nature and the market, the sustenance economy includes the human driven processes of production and reproduction. The sustenance economy relies on the health of nature’s economy, so when the market economy disrupts nature’s economy the sustenance economy is disrupted and drained, as well. This process is evident in many third-world countries where natural resources have been drained by the capitalist market through privatization of nature’s economy, cutting resources off from local sustenance economies.²²⁵

In response to the competing economies currently creating devastation for both the ecosystem and bodies of the sustenance economy, Shiva suggests a focus on “living economies”

²²³ Shiva, *Earth Democracy*, 14-15.

²²⁴ Shiva, *Earth Democracy*, 16.

²²⁵ Shiva, *Earth Democracy*, 19.

to square the principles of earth democracy with economy. A living economy is one that honors the intrinsic right all life has “to share in nature’s wealth, to ensure sustenance...”²²⁶ Guided by justice and stability, Shiva argues that in order to move forward in life-honoring ways, humans must tie economy to ecology and share the commons of nature’s economy.

Shiva is concerned with major systemic and global changes, offering a vision all people can aim towards. However, in order to do so, those people benefiting most from the market economy must change. In *Resisting Structural Evil*, Moe-Lobeda focuses on a process and vision for those she deems over-consumers, or those of the Western world who are most responsible for and have benefited from the structural systems and personal lifestyles that have contributed to climate change the most. Rather than proposing principles or a moral framework, Moe-Lobeda proposes a process for moral vision that entails: 1) recognizing structural evil; 2) envisioning what *could* be; and 3) acknowledgement of a sacred power at work (mystical vision).²²⁷ Moe-Lobeda cautions that “[w]e cannot go where we cannot envision,” a sentiment that drives this project because hoping for change without a vision and a plan, without thinking critically about possible futures, and without carefully looking at how we have arrived at the current juncture, is hopeless.²²⁸ With an ecological ontology of panagentialism, we can envision what could be by observing the many possible relationships between particular material beings in the composition of Gaia.

Targeting the world’s over-consumers, Moe-Lobeda recognizes three shifts that need to be made in the Western moral mindset that aim towards a relational and non-hierarchical moral framework. The first is a shift from privatized moral consciousness to an interconnected one that

²²⁶ Shiva, *Earth Democracy*, 62.

²²⁷ Moe-Lobeda, *Resisting Structural Evil*, 113.

²²⁸ Moe-Lobeda, *Resisting Structural Evil*, 113.

recognizes the inherent relationality of being in pursuit of morals rather than valuing the isolated individual. The second is a shift in moral consciousness that includes the perceptions and visions of oppressed peoples so that history does not continue repeating itself and systemic shifts of power distribution can be made. The third is a shift to an ecocentric moral consciousness from an anthropocentric one that is inclusive of other-than-human beings and the system of life itself. This final shift, Moe-Lobeda argues, is not a shift in priority but a shift in understanding of human relationships to the rest of the earth in opposition to relationships of domination.²²⁹ We are moral beings only in relationship to others, and the shifts of consciousness that Moe-Lobeda suggests are an effort to right the ways the world's over-consumers have composed poor relationships with other beings. With a focus on the relational process of moral beings, aiming towards a vision for transformation, Moe-Lobeda's process for creating a cultural shift gives way to the construction of an ecofeminist ethic. While Moe-Lobeda maintains a mystical vision, I assert that the panagential nature of an emergent material system leaves open the possibility for many material futures.

Recognizing the lack of language in Western ethics that expresses the experience of relationship with, rather than over, the natural world, Warren argues for valuing narrative and experience as a source of ecofeminist ethics.²³⁰ She offers guidelines for the development of an ecofeminist ethics, stating that they should be: 1) considered "theory-in-process." Further, in response to unjust distributions of power, ecofeminist ethics should contain 2) nothing that promotes any "ism of social domination," which requires that they be 3) contextualized and 4) inclusive. Recognizing the impact of Western metaphysics on Western ethics, she argues that

²²⁹ Moe-Lobeda, *Resisting Structural Evil*, 113-121.

²³⁰ Warren, *Ecofeminist Philosophy*, 102.

ecofeminist ethics are 5) non-objective, rather than universalized, and should 5a) privilege marginalized perspectives. Countering values of patriarchal hierarchy, they should be 6) centered on relational values, 7) understand humans as located in history rather than appeal to virtues of idealism, and 8) reconceive concepts of reason in preference for the various forms of intelligence demonstrated by living beings.²³¹ These guidelines have shaped the identification of principles of an ethic of embodied agency named and explored in the following section.

Shiva, Moe-Lobeda, and Warren each offer principles and processes for the formation of ecofeminist ethics that counter the Western patriarchal conceptualization of morality that entails individual rational humans pursuing moral idealism. An ecofeminist ethic is an ethic that is rooted—in history, in place, in body, in relationship, and in experience—so that transformation and growth are possible in a material sense. The next step in the process is a move towards transforming ecofeminist moral visions into concrete principles and practices.

Dynamic Moral Ecology: an Ecofeminist Ethic of Embodied Agency

In Gaia, there are no transcendent ideals, only patterns from which principles can be derived; the moving, interconnected, and material nature of reality brings additional complexity to ethics. Tension between concrete context and fluidity of living systems makes an ecofeminist ethic of embodied agency growing forth from the intersections of an ecological ontology of panagentialism a necessary tool for constructing active responses to climate change. The contextualization of ethics is in stark contrast to narratives that boast a disembodied and universal perspective that transcends bodily being. We can look to the material patterns of

²³¹ Warren, *Ecofeminist Philosophy*, 98-101.

globalization and colonization that have led us to this point as clues for the problematic paradigms and to ecosystems to derive principles for moving forward, filtered by contextualized practices of healthy communities. The goal of an ethic of embodied agency is to illuminate a pathway for moving from symbiotic relationships within Gaia that are parasitic to mutualistic relationships.

If you have ever attempted to walk forward while looking back, you know the challenge we currently face as we try to move forward without forgetting how we got here. Nevertheless, there is a need to refocus the conversation towards creating possible futures for bodies and beings that have yet to take shape—beings that will be living in a different world than humans currently occupy. A successful framework can prepare future generations to live in a different world, a world we have yet to encounter. Standing on the shoulders of ecofeminist giants, I propose here grounding practices for the development an ethic of embodied agency. The five principles are as follows:

1. Based in situated knowledges
2. Historically conscious
3. Ecocentric but anthropogenic
4. Mutualistic
5. Adaptive

Based in Situated Knowledges

Under an ecofeminist framework there is no single pre-packaged global solution to climate change. Rather, it is required that responses be locally and contextually based which provides a diversity of solutions that will not only disseminate global powers, but also increase the chances of human survival. Thus, the first principle is that responses are founded *on situated knowledges*.

In “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” Donna Haraway established the notion of situated knowledges in response to the problem posed by objectivity, which renders particular perspectives to be wrong if they do not reflect the disembodied knowledge of the white, straight, male. Since “manufactured knowledge” leads to power when it is accepted by the right people, making room for multiple perspectives of reality without dismissing the ability to talk about reality with some level of confidence altogether is more than just an epistemological move, it is an empowering one.²³² Haraway seeks an epistemology with moral aims that allows room for all “knowing subjects,” multiple ways of forming meaning, and commitment to “faithful accounts” rooted in shared reality. Rather than a universal perspective with vision set on transcendence and infinite growth, she aims for an epistemology that responds to the finite constraints of the natural world, rendering embodied experiences of power, happiness, and suffering to be both limited and meaningful.²³³ The significance of establishing an epistemology of situated knowledges is that only through situated perspectives, meaning particular, partial, and contextual, is objectivity possible; objectivity is embodied and therefore always subjective.²³⁴

Biodiversity in an ecosystem is necessary for the health and strength of the system. Further, context is significant because of the earth’s already diverse climates. Problems and solutions in Latin America should be different than problems and solutions in the Upper Midwest of the United States, thus the best solutions will come through focus on local ecosystems recognizing that the flourishing of the whole requires the flourishing of the parts. From a feminist standpoint, situated knowledge is vital because the essentialization of women,

²³² Haraway, “Situated Knowledges,” 577.

²³³ Haraway, “Situated Knowledges,” 579.

²³⁴ Haraway, “Situated Knowledges,” 589.

indigenous peoples, ethnicities, etc., or the homogenization of a group, leads to dangerous political and power dynamics that have allowed for patriarchal oppression. Diversity must not only be present, it must be respected and even celebrated through the engagement of situated knowledges, lest ecofeminism fall guilty to the accusations of its critics who argue that it is ethnocentric and essentialist. It is important that diversity be contextually based because diversity must be derived from the history of communities so that hierarchical power relations cease to exist between peoples and between people and their local environment.

Privileging of situated knowledge allows for an ethic that is contextualized by the people and beings in context, as Warren writes: “Conceived as a sort of narrative, a contextualized ethic is a shift from a monist focus on absolute rights and rules to a pluralist focus on various values, principles, narrative constructions and forms of intelligence.”²³⁵ Engaging situated knowledges in the formation of climate change response will allow people to recognize the ways they are directly and indirectly a part of other beings’ narratives; in other words, situated knowledges require people to see whose toes they are stepping on rather than focusing on who is stepping on their own toes.

The notion of situated knowledges is significant in the application of ecofeminist ethics to climate change because each community is responsible for the causes of global change in a different way than others and each community will be affected by global change in a different way. Thus, the experiences of people in their own context must provide the guiding voices for response, even though those people may not be responsible for the consequences they are facing. In *Integrating Ecofeminism, Globalization, and World Religions*, Ruether provides an account of

²³⁵ Warren, *Ecofeminist Philosophy*, 99.

The International Forum on Globalizations' "ten guiding principles for such healthy social institutions," one of which is diversity.²³⁶ As Ruether writes, "diversity is today recognized as key for the vitality and creativity of living systems... the diversity of nonhuman species needs to be defended, as well as the cultural diversity of the... the variety of peoples in human history."²³⁷ Allowing diversity, which strengthens the resiliency of ecosystems, to flourish requires the respect of the knowledge, including experiences, of all voices. Further, people that are parts of local ecosystems have better knowledge of those ecosystems than those from outside the bounds of each holarchy because they exist in a more direct symbiotic relationship with it. Each ecosystem forms a holarchy and the agents within are the ones most able and capable of creating responses to global change. Thus, the voices and experiences of beings in their places must be privileged.

Historically Conscious

Dynamic moral ecology requires that moral dispositions are turned toward material bodies and material consequences.²³⁸ An ecological ontology of panagentialism brings matter to the forefront of moral consideration along with the exchange of agential impact that occurs between and amongst material beings within a system. A commitment to justice requires understanding the material past in order to act into a better future, and so the ecofeminist principle of being *historically conscious* implies that solutions are developed with the past in view. An ecological ontology of panagentialism opens a new way of being in relationship,

²³⁶ Ruether, *Integrating Ecofeminism, Globalization, and World Religions*, 164.

²³⁷ Ruether, *Integrating Ecofeminism, Globalization, and World Religions*, 165.

²³⁸ Given the materiality of the brain and body, this includes mental and emotional consequences.

honoring the fact that humans emerged as part of a system composed of and embedded in countless other interrelated systems.

To move forward with one's interests without looking back is the function of privilege and would serve to be an injustice to those bodies, human and otherwise, that privileged bodies are built upon. As Greta Gaard writes, "Invisibility and, ultimately, violence happen most easily within a short-sighted and fragmentary mindset that is isolated from the existence and needs of others, qualities that characterize a modern, reductionist, and patriarchal intellectual and scientific tradition."²³⁹ Gaard suggests here that it is not enough to know that climate change is happening, predict how people will be impacted, and seek scientific solutions to slow the progress. The imbalances of relationships are in direct correlation with the injustices currently manifesting in the wake of global climate change. Bringing to light the ramifications of being relational agents, ecofeminism connects the oppressions of humans, other animals, and the earth-system, calling for the recognition of a holarchy upon deconstructing the patriarchal hierarchy.

Moving forward into better possible futures with a paradigm shift requires looking back through that new lens to unveil what was previously unseen or ignored, namely the material consequences of operating on non-existent moral ideals. People of the West must see themselves within the historical narrative of the earth leading up to climate change and in relation to the suffering of other beings that has resulted from global change.

A morality grounded in material history requires that we forgo the idea of the moral individual and universal right and wrong. Ecofeminist responses to climate change must be historically conscious so that those who have been oppressed in the past do not bear a disproportional part of the responsibility compared to those whose lifestyles have caused

²³⁹ Lahar, "Roots," 96.

oppression of peoples and degradation of the earth. In order to avoid perpetuating relationships of oppression, an ecofeminist epistemology is required because under an ecofeminist epistemology evil is constantly identified. As Gebara argues, “Feminism denounces any knowledge considered scientific that results in excluding women and the marginalized.”²⁴⁰ I hold that this includes knowledge of history. A proper response to global change does not allow for dominating peoples to tell history and construct solutions based on their own stories. Being historically sensitive means considering the ways in which women, the earth, and groups of people have been oppressed in the past.

Global change is not a result of environmental abuse of all peoples, it is the result of colonization and consumption of those who have become the world’s wealthy. Global change is intricately related to the earth’s history, thus a historical consciousness is required as an ecological principle. A historical earth consciousness helps to remind people that we are certainly not the center of the universe nor are we the center of the earth. Life emerged on earth long before humans did, and it is very likely that life will continue to emerge long after humans are gone. Further, global change is the result of violent power dynamics between peoples and nations and this history cannot be ignored. In an effort to obtain environmental sustainability justice cannot be forgotten because the symptoms of injustice and global change are both signs of illness within the same body.

²⁴⁰ Gebara, *Out of the Depths*, Kindle 869.

Ecocentric but Anthropogenic

Within an ecological ontology of panagentialism, an anthropocentric approach is an ecocentric approach and vice versa. However, if we want to save ourselves at all, we ought to maintain some level of value for human survival because Gaia as a whole is indifferent to the particular forms of agency that persist within them. I argue that the responses to climate change must be anthropogenic because we cannot look to the earth for solutions; it is human behavior that must change. While the value system may be ecocentric, the solutions must focus on human behavior, especially a particular set of humans, along with global trends. Further, if one truly took an ecocentric approach to climate change ethics, one would find that humans are more like a virus or a cancer and should be eliminated to a level is maintainable by the whole ecosystem body. Lovelock puts it more harshly: “Humans on the Earth behave in some ways like a pathogenic micro-organism, or like the cells of a tumor or neoplasm.”²⁴¹ Lovelock implies is that we have gotten our metaphysics all wrong, which has led to a material catastrophe caused by humans.

Shifting one’s image of the world from a dead and mechanistic one, in which the realm of life is separate from the matter that contains it and humans are the pinnacle of life, to an emergent system with futures composed by a multitude of agents requires a shift in focus. Thus, solutions must be *ecocentric but anthropogenic* since human agency is the driving force behind global change. If one conceives of humans as material bodies one must extend moral consideration to other material bodies because of the symbiotic and holarchic nature of material existence, hence the lack of conflict between advocating for an anthropocentric worldview vs. an

²⁴¹ James Lovelock, *Healing Gaia: Practical Medicine for the Planet* (New York, NY: Harmony Books, 1991), 153.

ecocentric one. While an ecocentric worldview may not necessarily be anthropocentric—the earth can indeed flourish without humans—an anthropocentric worldview must be inherently ecocentric because humans are earth-bodies.

Ecocentric and anthropogenic responses to climate change are necessary because it is humans who must work to adapt. However, adaptations must keep the intrinsic value of the ecosystem—in all of its wholes and parts—as the motivating factor. The processes of adaptation must avoid privileging of Western humans and the continued destruction of the ecosystem which is, in the long run, to the detriment of humanity. By keeping an ecocentric organizing principle, humans will more readily be able to find a niche within local ecosystems. Ruether writes: “The wisdom of nature lies in the development of built-in limits through a diversity of beings in interrelation, so that none outruns its own ‘niche.’”²⁴² With the ecosystem at the center of moral motivation, people must consider the emerging systems that we are a part of and live into those systems rather than attempt to manage local ecosystems in order to control the larger earth-system as a whole. If responses to global change are ecocentric but anthropogenic, people will best be able to create and fit into niches that help life on earth to flourish while also becoming integral aspects of local ecosystems that are relatively self-sustaining and self-restorative.

Mutualistic

Humans are moral beings, part and parcel of a wider transient material system that is encompassed by the earth’s open system, hence the need for attunement to forming *mutualistic* relationships within a holarchic conception of bodies. The moral plea here is to exchange human exceptionalism for earth justice with an aim towards mutual flourishing with the beings we are in relationship with. Western peoples must face the fact that the earth does not exist for any

²⁴² Ruether, *Gaia and God*, 257.

particular people, but people exist only because of and in relation to the earth. The only hope for this exchange is a radical change in the patterns of relationship developed by people, especially for those whose worldviews and practices have done the most harm to other people and the earth's ecosystem.

Ecosystems and just social systems both require a relational valuation of members based on the cycles of matter. Both systems consist of diverse roles and relationships, but in order for an ecosystem to function properly and a social system to be just, each being must be valued in its particularity and in relation to the whole. As moral beings, humans are able to make conscious decisions about what type of relationships we form with other beings and ought to aim for mutualistic relationships in order to support the flourishing of Gaia's many agencies. On a social level, this means that women and other marginalized beings cannot be disvalued based on the generalized role they play in each particular society but that all people are moral beings as parts of a whole. As Ruether writes of ecological spirituality, an ecofeminist response to global change "needs to be built on three premises: the transience of selves, the living interdependency of all things, and the value of the personal in communion."²⁴³ As symbionts, value of the particular must be considered in relation to the whole material system and not towards the measure of a single ideal conceptualization of being. Interdependence is an ecological truth for all things; thus, it is vital that all things are valued on equal footing and when possible reflect mutualistic relationships. A holarchic ontology reflects the required relationality of ecofeminist ethics because it values beings in their particularity and in their relationality as entangled components of being.

²⁴³ Ruether, *Gaia and God*, 251.

As members of ecosystems both local and global, humans are parts that comprise systems. This conceptualization of humans is important because responses to climate change require the transformation of injustices caused by global structures in order to move towards better futures. While she does not utilize the language of symbiosis, Gebara argues that “[e]cojustice is the kind of justice we seek and live out when we affirm our bodies as part of the Sacred Body of the universe.”²⁴⁴ Recognition of our embeddedness in the world, when applied to the development of a moral framework, requires a focus on the relationship between the particulars and the whole rather than a focus on the particular and the whole as if one or the other must be chosen. Our bodies are a part of the ecosystem and the ecosystem composes our moral bodies; justice is not the settling of a zero-sum negotiation, but is the mutual flourishing of beings that compose and are composed by an interrelated material system.

Adaptive

The final characteristic is that responses to global change must be *adaptive*. Adaptation in an emergent system is an ongoing process, not an event. On an ecological basis, ecosystems are founded on the particularities of each aspect of the ecosystem, and thus empower each member to come to live into its own niche within the emerging system in an ongoing process. Likewise, responses to global change must empower people and societies to transform in response to a changing environment rather than emit laws of limitations in an effort to strictly manage the environment. The mechanistic model of the earth has been proven false and dangerous, so as humans move into an unknown world that has been transformed by climate change, we must be open to continuous adaptation rather than holding onto stagnant and transcendent ideals.

²⁴⁴Gebara, *Longing for Running Water*, 87.

In the past, many white bodies have attempted to preserve the world by manufacturing experiences of wilderness in parks and refusing to let go of species in places that are no longer hospitable to them. Rather than asking how to fight climate change, we need to figure out how to adapt. A cartoon by Tom Toles published in the *Washington Post* on May 4, 2015 depicts four large herbivores, a gorilla, rhinoceros, elephant, and hippopotamus, waving goodbye with the caption “We thought we’d pose for a group photo before you finish us off entirely.” And a response “Sorry, we were too busy taking a selfie to notice.”²⁴⁵ While there have been efforts to preserve some of these magnificent creatures, including artificial insemination of remaining *Dicerorhinus* females in captivity,²⁴⁶ they have involved the management of individuals. What has been lacking in these efforts are the connections between the daily practices of the people who travel to see these rare creatures in zoos and the disappearances of their bodies from natural habitats that have grown inhospitable due to a constructed dichotomy between the human world and the world of everything else, thus the need for solutions to be *adaptive* rather than based on symptom management. While more information is needed on the effects climate change has on the large herbivores named above, what we do know is that they play a major role in spreading the large seeds of densely growing trees that store carbon, so their disappearance will impact the ability of the earth’s system to store carbon;²⁴⁷ yet another unpredictable factor in carbon mitigation calculations.

²⁴⁵ Tom Toles, “Tuesday’s Cartoon: No Ark this Time,” *Washington Post*, Editorial Cartoon, last modified May 4, 2015, https://web.archive.org/save/https://www.washingtonpost.com/news/opinions/wp/2015/05/04/tuesdays-cartoon-no-ark-this-time/?utm_term=.8530b9bc4400.

²⁴⁶ Kolbert, *The Sixth Extinction*, 218.

²⁴⁷ W. J. Ripple, T. M. Newsome, C. Wolf, et al., “Collapse of the world’s largest herbivores,” *Science Advances* 1.4 (May 2015): 9, <https://doi.org/10.1126/sciadv.1400103>.

Western cultures have assumed that it is up to us to care for nature, but it is important to remember that a rapidly changing climate will not destroy the earth; life will persist. As biologist and Gaia theorist Lynn Margulis reminds us: “To me, the human move to take responsibility for the living earth is laughable—the rhetoric of the powerless. The planet takes care of us, not we of it.”²⁴⁸ So while an ecocentric ethic is necessary and I will argue that other beings have intrinsic value, a primary concern for ecofeminist ethics is justice in the human process of adaptation to climate change. This concern, however, is anthropogenic rather than anthropocentric meaning that moral consideration for other-than-human bodies comes from humans and humans are not the only beings due moral consideration.

While it is tempting to try to “save” species that are disappearing from places no longer hospitable to their being, Gaia calls us instead to seek out new frameworks for being in relationship to non-human forms of transforming materiality, to replace previous frameworks of management and domination. Sahtouris recognizes this call, urging that “[w]e are wrong to devote our attention to saving or managing nature. Gaia will save herself with or without us and hardly needs advice or help in managing her affairs. To look out for ourselves, we would be wise to interfere as little as possible in her ways, and to learn as much as possible of them.”²⁴⁹ This idea, that we can look to “nature” for moral guidance has been critiqued in the past. However, these critiques come from a model of the world in which culture and nature were believed to be different realms of being. If we break down that binary and consider morality in the material context in which relational exchanges take place, this charge from Sahtouris is quite sensible.

²⁴⁸ Margulis, *Symbiotic Planet*, 143.

²⁴⁹ Sahtouris, *EarthDance*, Kindle 514-516.

Species that have survived major climate changes of the past adapted to new ways of being in relations to the transient systems of which they are a part.

Adaptation is key to the creation of innovative new ways that people might relate to and create their niche within local ecosystems. Adaptation is vital because it allows for people to create their own niche rather than being forced into one based on gender, ethnicity, or nationality. That responses to climate change are adaptive means they must result in concrete change; the process of adaptation allows for correction and continuous movement when humans get things wrong, and we absolutely will get things wrong.

Conclusion

As earth-bodies and members of Gaia, to preserve is to act in opposition to our own persistence as a species. Life as a whole and individual species have demonstrated great abilities to persist, but persistence requires adaptation rather than preservation. Whether humans want to or not, we will adapt to a changing climate but it will take much less sacrifice if we embrace an ethic of embodied agency grounded in and ecological ontology of panagentialism than if we continue to operate under the assumption that we can preserve what never existed—humanity apart from nature. The nodes of an ecological ontology of panagentialism offer corrections to historical ontological and moral missteps: attention to that material reality and consequences of actions (rather than ideals), symbiosis as ethics in relationship (in opposition to the “survival of the fittest” mentality), agential relationships as context for morality, diversity (in opposition to the pursuits of homogeneity), a recognition of a holarcic nature of being (as opposed to linear, hierarchical models for continuous growth), and systems of relations (as opposed to scales of power).

Despite valuable criticisms, ecofeminism remains to be a vital conversation partner in the construction of responses to global change around the world. Ecofeminism is not conducive to the construction of a single global response to global change. It is, however, vital as a guiding framework in the construction of responses to global change. Through setting up an ecofeminist framework oriented towards justice that is 1) based on situated knowledges; 2) historically conscious; 3) ecocentric but anthropogenic; 4) mutualistic; and 5) adaptive, we can continue the difficult work of pursuing retribution for the harms of the past while pursuing a future in which all humans live as responsible moral beings within Gaia's system. An ethic of embodied agency is an approach to climate change ethics that privileged peoples of the Western world need to guide their responses to global change; particularly, it is meant to restore power to the bodies of those who have been disempowered in order to shape better possible futures.

To feel the violence and the anxiety of a rapidly changing climate seems odd, perhaps even a bit dramatic, to those who project ideals of reason and organization onto themselves and the rest of the world. In the West, people of European decent mostly opt to function as though we are a part of a civilized culture rather than, and even in opposition to, an unreasonable wild. Rather than feeling the chaos, we scramble to create order out of the climate crisis, a new order perhaps, but order nonetheless. Yet, something is amiss as evidenced by the transformation of the spaces and places we belong to in addition to the science evidencing climate change. In response, we try to preserve the places as we have known them with familiar flora and fauna; we attempt to preserve the familiar forms of biodiversity in order to hang on to Gaia as we know them. Biodiversity, like Gaia's many other characteristics, is essential for a resilient earth system but biodiversity itself is not a cog in a machine, it is the result of a living, moving, transforming

process of life. Despite centuries of begging Gaia to bend to the will of reason, to lie down dead like a body with organs for harvest, Gaia persists in persisting.

While I was visiting my nieces, the oldest one shared with me a project she had done on Rachel Carson. For the project she did research on Carson and then wrote a poem and short story that reflected what the voice of Carson might say today. The words were chilling, and it quickly became clear that the words were so heavy because they not only reflected the imagined voice of Rachel Carson, but also the voice of a thirteen year-old girl who felt the weight of violence being done to the earth in her own body and who feared the future she might be witness to. The only eyes she allowed to see her project were mine and her teacher's. She was embarrassed to share it with other family members because of the emotional vulnerability it opened up on an issue where many might see those emotions as eccentric. More recently, her Instagram featured a stream of images reflecting pollution and damaged ecosystems with the caption: "I find it funny that people say we were put here for a reason, to make the world a better place. But when you look at the facts we've done the complete opposite." Now fourteen, she already recognizes that the paradigm she is being offered does not fit the world she experiences and she is seeking different ways of being. I started this project from my own location but I did so because I know that others are seeking and will seek alternatives and they will need ones that speak to our shared experiences and contexts in order to usher us out of a white patriarchal haze and back into our bodies which are ripe with power and agency amongst a host of other agential bodies.

Rather than feeling the loss, damage, and destruction we have done to the environment, we point to science or politics as the problem and the solution, displacing our sensing, feeling selves from the web of life we are a part of. So preoccupied with othering non-human aspects of Gaia, many humans in the culturally Western hemisphere fail to recognize the ways in which our

very bodies emerge from, are sustained by, and return to wilderness. We often forget that we are, in fact, one of many particular agential bodies that compose together the body of Gaia.

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